

D102-83:81/3

Infantry





PB 7-91-3

MICHAEL P.W. STONE

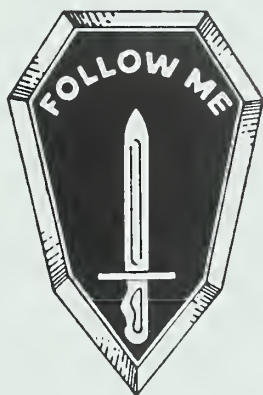
Secretary of the Army

MG CARMEN J. CAVEZZA

Commandant, The Infantry School

ALBERT N. GARLAND

Editor, INFANTRY



This medium is approved for official dissemination of material designed to keep individuals within the Army knowledgeable of current and emerging developments within their areas of expertise for the purpose of enhancing their professional development.

By Order of the Secretary of the Army

CARL E. VUONO
General, U.S. Army
Chief of Staff

OFFICIAL:

PATRICIA P. HICKERSON
Colonel, U.S. Army
The Adjutant General

Distribution: Special

Infantry

May-June 1991

Volume 81, Number 3

21 FACING A CHEMICAL THREAT

Captain James E. Smith

28 JUST CAUSE: MOUT Lessons Learned

Major Robert G. Boyko

33 81mm MORTARS: The Forgotten Platoon

Captain Christopher A. Collins

DEPARTMENTS

1 COMMANDANT'S NOTE

3 LETTERS

6 INFANTRY NEWS

10 PROFESSIONAL FORUM

10 THE ARMY OF THE 1990s:

Challenges of Change and Continuity

General Carl E. Vuono

14 ONE PLACE, THREE WARS: Part 1

Major General Bernard Loeffke

37 TRAINING NOTES

37 THE RANGER COURSE

39 UNDERSTANDING FIRE SUPPORT

Captain Jonathan D. Thompson

41 ARTILLERY EFFECTS TEST

George A. Durham

Captain Rory J. Ogle

43 TRAINING COMBAT SUPPORT

Lieutenant Colonel Thomas R. Rozman

45 SWAP SHOP: Thermal TRP

46 OFFICERS CAREER NOTES

49 BOOK REVIEWS

FRONT COVER: Browning Automatic Rifle Position, South Pacific, World War II, by Andy Patt.

• **INFANTRY** is an Army professional bulletin prepared for bimonthly publication by the U.S. Army Infantry School at Building 1827, Fort Benning, Georgia. • Although it contains professional information for the Infantryman, the content does not necessarily reflect the official Army position, and it does not supersede any information presented in other official Army publications. • Unless otherwise stated, the views herein are those of the authors and not necessarily those of the Department of Defense or any element of it. • Official distribution is to infantry and infantry-related units and to appropriate staff agencies and service schools. • Direct communication concerning editorial policies and subscription rates is authorized to Editor, INFANTRY, P.O. Box 2005, Fort Benning, GA 31905-0605. • Telephone: (404) 545-6951; AUTOVON 835-6951. • Second-class postage paid at Columbus, Georgia, and additional mailing offices. • POSTMASTER: Send address changes to INFANTRY, P.O. Box 2005, Fort Benning, GA 31905-0605. • USPS Publication No. 370630. ISSN: 0019-9532.



Commandant's NOTE

MAJOR GENERAL CARMEN J. CAVEZZA Chief of Infantry

THE INFANTRY TRAINING CENTER

In several of my previous notes, I have pointed out many important things we do at Fort Benning to assist the Army in accomplishing its varied missions. Nothing we do, however, is more important than the job the officers and men of our Infantry Training Center do everyday. They receive all of the Army's new enlisted Infantry soldiers and train them to become basic Infantrymen qualified to take their place in Infantry squads, platoons, and companies.

The training program our Center uses—12 weeks and 3 days in length—is a demanding one and is conducted in five phases. The first three phases are associated with basic combat training (BCT) while the last two phases are devoted to specific training in CMF 11. To continue in the program, the basic soldiers must pass a test at the end of each phase. Each phase, therefore, is a building block that integrates the skills that were taught during the previous phase.

During the BCT phases the new soldiers are introduced to the military way of life and the profession of arms. In addition to following a daily physical training program that continues throughout their time at the training center, the new soldiers receive instruction in such subjects as drill and ceremonies, military courtesy and customs, basic combat skills (including weapon training and qualification), bayonet training, map reading, individual tactical training, and antiarmor techniques.

In the last two phases of training, Phases IV and V, the soldiers are trained along MOS-specific

tracks: 11B, 11BC2, 11C, 11H, and 11HE9. At the end of Phase V, selected 11B soldiers receive an additional two weeks of training on the Bradley fighting vehicle, to include driving the vehicle and performing operator maintenance. Those soldiers who successfully complete this additional training are awarded the 11M MOS.

The soldiers who follow the 11B and 11BC2 tracks receive squad tactical training in which they learn to move as members of a squad. They are also trained with the M249 machinegun, in military operations on urban terrain (MOUT), and are given additional antiarmor training using the M47 Dragon and the M136 (AT4) launcher.

Meanwhile, those soldiers selected for the 11C (mortarman) track are trained with and qualify on the 81mm mortar. In addition, they are introduced to the 60mm and 107mm mortar, fire direction center, and forward observer procedures. The soldiers who follow the 11H and 11HE9 tracks are trained on the TOW missile system and the M901 ITV (improved TOW vehicle) system.

Throughout its training program, the Center emphasizes tactical realism and reinforcement as well as the integration of previously learned subjects in each block of instruction. These methods, along with the use of after action reviews, allow the soldier to reach his full potential. Discipline is key to this process, and is stressed throughout the program. Finally, the Center gives its soldiers enough work to keep them busy, training six days a week during the training cycle. The soldiers are challenged every day with new

skills to learn and master.

By the time they complete their training, our Infantry soldiers have passed an Army Physical Fitness Test (APFT), have been certified on at least 34 performance-oriented critical skills, and have qualified with the M16A2 rifle and other MOS-specific weapon systems. In short, they have been institutionally trained on many of the entry Level One soldier tasks.

When these soldiers arrive at their first units, the units receive an information packet on each. It contains an individual training record (DA Form 5286-R), which is a formal record of the tasks in which the soldier has been certified, along with his weapon and APFT qualification records.

Because of time constraints, these soldiers must be trained on the remaining Skill Level 1 tasks in their new units. I cannot stress strongly enough how important it is for our field commanders to receive these new Infantrymen properly. It is imperative that they be met with concern, compassion, and dignity, and that they be promptly integrated into the unit training program. They must also be imbued with a team spirit that will make it easier for them to learn

the higher level skills their units will expect them to know.

In addition to continuing its one station unit training program, the Infantry Training Center was given the mission during Operation DESERT STORM of conducting refresher training for about 3000 Individual Ready Reserve soldiers who had been recalled to active duty. In this endeavor, the Center was aided by another group of recalled Army Reservists—members of the 70th Division (Training)—who filled in admirably for many of their Active Army counterparts who were called away to serve in Southwest Asia. It is interesting to note that a number of the 70th Division's soldiers had only recently completed their annual training duties with the Center.

I am firmly convinced that the Training Center is producing a better Infantry soldier than ever before and is providing the field Army with soldiers who are well trained, disciplined, motivated, and willing to do the job. I encourage all of our field commanders to plan to visit the Center the next time they come to Fort Benning and to observe the training that it offers. I believe you will find it an educational and rewarding experience.



INFANTRY LETTERS



DON'T REPLACE M60 WITH M249

EDITOR'S NOTE: The following letter, written 6 February 1991 somewhere in Saudi Arabia, arrived at our office on 7 March.

As my company prepares to fight Iraqi troops north of our assembly area, I have found there are three things I can count on: my fellow troopers, INFANTRY Magazine information, and the M60 machinegun.

While weapon procurement is not a democratic process, I have discussed the proposed replacement of the M60 with the M249 (SAW) with soldiers in my company, and none of them would place a SAW instead of an M60 in our support positions.

In my limited experience as an airborne rifle platoon leader and company executive officer, I have seen many examples of the M249's limitations as a general purpose machinegun.

On the streets of Panama City during Operation JUST CAUSE, my platoon engaged two Panama Defense Force (PDF) soldiers who had attempted a "drive by" attack on my positions. The vehicle, a Japanese sedan, was engaged head-on by M16A2 and M249 fire. The 5.56 bullets simply bounced off the windshield; few penetrated, until an M203 round neutralized the vehicle.

In February 1989 my Ranger training platoon was issued M249s for the desert phase of Ranger School. A day later, the Ranger instructors had us return them to the arms room because they frequently jammed in the Utah desert.

During Operation DESERT SHIELD/DESERT STORM my company has trained extensively for seven months in the sand of Saudi Arabia. During a battalion live fire exercise, six

of our I8 M249s jammed continuously. None of the M60s did. The other M249s in the battalion fared no better. Both types of systems were clean and lightly lubricated. The M249's excessive jamming also occurs on zero and qualification ranges and with blank training ammunition. This hardly inspires confidence.

A cursory glance at the two weapons' specifications, as found in their -10 level manuals, illustrates their significant differences.

Not only does the M60 outgun its smaller counterpart, but it fulfills several key missions the M249 can't.

How well can the M249 neutralize or suppress an enemy bunker with its limited penetration? Likewise, can the M249 accomplish the M60's current role as a platoon weapon against light skinned vehicles? I suggest that the SAW will fare even worse against a tactical vehicle than against a Panamanian Toyota.

In the M60's air guard role in a tactical vehicle, the replacement M249's decreased range and penetration will reduce its effectiveness against even the lowest and slowest threat aircraft.

We had heard that the proposed replacement of M60s with M249s would affect only mechanized TOE units in which limited troop compartment space and the fighting vehicles' own additional firepower were considerations. We can't see the logic in taking away 70 percent of the firepower of light and airborne infantry.

I hope the announcement of the change (INFANTRY, January-February 1991, page 6) will encourage other infantrymen to write and revive the issue before we make a great mistake that will be paid for on future battlefields.

It would be difficult for me to explain to my proud M60 machinegunners why

I was taking away their beloved "pig" and replacing it with an underpowered "piglet."

MAURICE P. HEISIG
LT, Infantry
Company B, 2d Battalion,
504th Infantry
82d Airborne Division

LIGHT PLATOON FIREPOWER

The recent U.S. Army decision to replace the venerable M60 machinegun with the M249 squad automatic weapon (SAW) in the ground mounted role was a tough call.

The M60 has a 25 percent greater effective range and weighs only 20 percent more than the M249. The M60 is combat proven, and reliable under adverse environmental conditions.

True, the M249 has a three-to-one cost advantage, but the cost of the M60s already in the force structure is sunk. New M249s will have to be procured as an out-of-pocket cost to out-year budgets.

Three opportunities, however, materialize from this replacement decision:

First, the two-man M60 machinegun team could be reduced to a single M249 gunner. By shifting to 5.56mm, each machinegunner would cut his ammunition weight in half. Further, the M122 tripod could be deleted to conform with other bipod-mounted M249s in the platoon.

Second, the two manpower spaces saved could be reinvested to improve platoon firepower. For example, two self-propelled MK 19-3 40mm grenade machineguns (GMGs) could be placed in each platoon headquarters. The MK 19-3 GMG would extend the platoon leader's influence to 2,200 meters, improve platoon suppression capability

with a sustained rate of fire of 44 rounds of high explosive dual-purpose (HEDP) per minute, and provide a top-attack capability against light armored vehicles in hull defilade.

The platoon burden would be alleviated if each MK 19-3 gunner was mounted on an all-terrain vehicle, such as the commercially manufactured AMT-600 transporter. The AMT-600 weighs less than a half-ton and has a 600-pound payload, enough to carry the GMG and more than 380 rounds of HEDP ammunition. The gunner could double as the vehicle's driver.

Finally, instead of languishing in a depot as wartime reserves, the M60s that had been phased out of the ground role could be reconditioned and reissued to arm selected tracked combat and tactical wheeled vehicles that are now unarmed. (Operation DESERT STORM has probably served as a painful reminder of the necessity for rear area security, especially along lines of communication.) Mounting displaced M60s on vehicles that normally operate forward of the division rear boundary makes good operational and economic sense.

In summary, the potential reutilization of two manpower spaces could be the critical factor in the M60 replacement decision. The M60-M249 trade-off could result in a significant improvement in firepower if four infantrymen armed with two M60s were replaced by two infantrymen armed with M249s and two armed with self-propelled MK 19-3 GMGs.

RICHARD K. FICKETT
Annandale, Virginia

COMPANY DEFENSE

In response to "Effective Company Defense: A Matter of Time and Task Management," by Captain John F. Agolia and Major John D. Johnson (INFANTRY, January-February 1991, pages 38-41), again, this is a structured approach to organizing the confusion instead of exploiting opportunities that exist on the battlefield.

Battle position (BP) defenses are now outdated except to deny some sacred ground that is politically unsound to surrender. These defenses face current and potential enemies that will be heavily mechanized and armed with artillery and will infiltrate their infantry using third-generation tactics. This is a dying tactic that must be re-written in doctrinal manuals and restructured in training environments such as the National Training Center and the Joint Readiness Training Center.

The Army's warriors are inflicted with the checklist approach to dealing with the enemy. It seems a task can be accomplished if it is correctly written. I'm not saying that teaching lieutenants and sergeants the basics of defense is wrong, so long as many other approaches are used to counter what I call the graphics approach.

The graphics approach is one in which a plan can be a total disaster, but it has a chance to be approved if the graphics are done to officer advanced course doctrinal standards. (This also includes a good, orderly brief to a leadership that does not need to know what the air defender is doing because he has already been issued a mission order and can be counted on to coordinate and accomplish his task.)

This approach is being presented and carried over into our higher ranks. The authors of the INFANTRY article, both of whom possess vast knowledge and have observed hundreds of NTC battles, somehow think that all leaders are walking into the NTC without any knowledge. This is because doctrine is drummed into all of us as the rule, and tactics do not become important until six months before an NTC rotation. We are not taught to think, just to react.

First, the operations order is approached with too much methodical detail, because units are expected to present observers or evaluators with long detailed orders and overlays for everything. What happened to the commander's intent to this company? The warrior must view the terrain with an eye to what the enemy is capable of doing and the vision his commanders two levels up have of the result.

General Hermann Balck, the brilliant German tactician, would sit with his subordinates and tell them his mission order quickly in simple terms on the basis of the enemy: "I want *you* to go here, *you* to block here, and *you* to be prepared to reinforce success, because *this* is the result I want to see."

This approach can be translated using common tasks, training drills, and knowledge of the enemy. Using just checkpoints on an overlay as references, a company commander can tell his young warriors, "I want *you* to orient in the vicinity of CP 5 and *you* to orient on CP 3, while *you* remain in reserve to counterattack to any CP that exploits an enemy weakness, such as a flank or rear." And the key to this order is the *why*—"to channel the enemy and destroy him in depth to enable the battalion to conduct a counterattack while the brigade penetrates to guard the division flank." Because this commander's subordinates have been trained in their tasks and understand war, they can go off and accomplish their missions. The commander must hold them to standard instead of to a detailed chart. The company now orients on a moving enemy instead of a stationary engagement area on the map!

In using the BP defense, we are taking away our vast mobility advantage. Our defense plans also call for required times in phases. This is fine in the ARTEP environment where we all know the enemy will not arrive until a certain time. But what happens if we do not have satellites to mark the enemy's arrival date? We cannot cling to a mindset that catches us in phase two with the enemy entering the graphic engagement area.

Units beat the OPFOR at the training centers, and will be able to beat their current enemies, using what I call the flex offense and defense. Screening forces using counter-surveillance and counter-reconnaissance forces tied in with electronic warfare units from brigade, will be positioned in depth. While the battalion and brigade position most of their mobile combat power in multiple hide positions in depth in

preparation for a counterattack by fire and maneuver in the direction of the enemy orientation, platoons and sections of killer teams will be in position between these security and mobile forces to wear down the enemy as he moves through the depth. The company BP defense with its long preparation time offers the enemy a known target. In the case of the flex defense, the focus will be on the enemy, not on the graphics.

The winning commander is not the one who takes the battlefield and tries to make it look pretty and linear and where an ideal enemy will drive right into the obvious engagement area. The winning commander is the one who accepts confusion and exploits it! We do this with trusted subordinates and mission orders (another subject that is written about but not practiced). We focus on the end result and not the signature block on the maneuver overlay.

Basically, it comes down to this: Never do the same thing twice in tactics or operations. The authors of the article in question attempt to do the defense preparation in phases by a set time. What a commander needs to do is train his troops in the use of their basic tasks and the leaders in their understanding of being warriors, and then assign them a mission order and allow them to

execute it. He needs to stand back and observe how his leaders apply the basics to each tactical situation he assigns. The key is not time management but personality management.

DONALD VANDERGRIFF
CPT, Armor
Amphibious Warfare School
Quantico, Virginia

CANADIANS IN THE GULF

I am trying to get in touch with Canadians who have served in the U.S. forces in the Persian Gulf. Write to me at 82 Florizel Avenue, Nepean, Ontario, Canada, K2H 9R1; or call me at (613) 996-1388.

FRED GAFFEN
Military Historian

VETERANS OF NORMANDY INVASION

We at the Eisenhower Center are attempting to preserve the record of the common soldier, sailor, and airman who took part in the 1944 Normandy invasion. I am therefore calling on all veterans of the Normandy invasion, in

whatever capacity, to contribute their own taped oral histories to the D-Day collection at the Center. For the 50th Anniversary of the invasion, the Center plans to publish a book "Voices of D-Day." It will be based on the oral histories.

Please write to me for details: The Eisenhower Center, University of New Orleans, New Orleans, LA 70148.

STEPHEN E. AMBROSE
Director

25th INFANTRY DIVISION ASSOCIATION

The 25th Infantry Division Association will hold a convention in October 1991 in Hawaii to celebrate the division's 50th anniversary.

Anyone who is interested in becoming a member of the Association, or who is interested in attending the convention should write to: 25th Infantry Division Association, ATTN: LT Ross, Brigade S-2, HHC, 3d Brigade, 25th Infantry Division, Schofield Barracks, HI 96857-6032.

IAN ROSS
Acting Secretary



INFANTRY NEWS



CHIEF OF INFANTRY UPDATE

EDITOR'S NOTE: The Chief of Infantry Update is intended to keep the field informed of actions that are designed to improve the efficiency and effectiveness of their infantry force.

Infantrymen are encouraged to comment on the items that appear here

and to suggest topics they would like to see covered in the future. Address your suggestions to Commandant, U.S. Army Infantry School, ATTN: ATSH-TDI, Fort Benning, GA 31905-5593, or call DSN (Defense Switched Network) 835-2350/6951 or commercial (404)

545-2350/6951. (Beginning with this issue, INFANTRY will drop the old familiar "AUTOVON" designation for telephone numbers in the Defense Department communication system and use the new "DSN" instead.)

DESERT BATTLE DRESS uniform (DBDU) design must take into consideration the various types of deserts and climates into which soldiers may be deployed. Each type of desert—mountain, rocky plateau, and sandy—has its own distinctive characteristics and range of temperatures, which can be from -50 to +140 degrees Fahrenheit.

Several major factors influenced the design of the current DBDU:

- Solar loading of the darker colors in the uniform in extreme high temperatures.
- Durability (a severe problem in rocky deserts).
- High winds.
- Extreme cold temperatures.

The challenge of designing one uniform that would fit these environmental extremes required both technical testing and troop testing. This effort resulted in the selection of the current seven-ounce material as the best trade-off between comfort and durability for all desert environments.

The standard DBDU is made of a blend of 50 percent nylon and 50 percent cotton. The uniform has reinforcement patches in several areas—the shoulder area to prevent a possible burn from the solar loading of the darker colors, and the elbows, knees, and crotch for added durability.

Before Operation DESERT STORM, only about five percent of our armed forces were oriented toward desert operations. The onset of this conflict therefore left a severe shortage of all desert items, including DBDUs. More DBDUs were being manufactured. Because the new seven-ounce material was not available, however, 100 percent cotton DBDUs were also being made to meet the requirements. In addition, the basis of issue for Operation DESERT STORM increased from two uniforms per soldier to four, which further increased the requirements.

There is now a third DBDU project under the soldier enhancement program that is unrelated to Operation DESERT STORM. The improved DBDU is another attempt to find a lighter, more durable uniform for the desert. A test with the Sinai peacekeeping force this summer will evaluate three candidate fabrics to meet this need.

As a result of a recent evaluation of alternative desert camouflage patterns by the Belvoir Research, Development, and Engineering Center, the Infantry School decided to change to a three-color camouflage pattern for desert items as the six-color camouflage material is exhausted.

THE BALLISTIC LASER EYE protection spectacles (BLEPS) underwent user testing in late 1988 and early 1989 at Fort Benning, Georgia. The item should be considered an interim fix only. Technological advances available since the end of Fiscal Year 1990 may provide more complete laser protection.

Developmental testing in early 1987 included the first two levels of laser protection. Prototypes are polycarbonate coated plastic, engineered to provide frontal and peripheral protection against low mass, ballistic fragments (less than 300 milligrams) at low- to mid-velocities (less than 1,000 feet per second). Low power, laser hazard protection is provided by a snap-on front insert.

The Army procured 100,000 each for issue as a go-to-war package. Fielding of the interim spectacles began in June 1988 with the 2d and 11th Armored Cavalry Regiments in Germany. An additional 187,000 were purchased and sent directly from the manufacturer to Operation DESERT STORM.

The developmental program for the objective system continues and has been placed under the soldier enhancement program.

A NIGHT SIGHT BRACKET has been developed for the M136 antiarmor

rocket (AT4). The AT4, a replacement for the M72 light antiarmor weapon, was fielded without a capability for engaging targets at night or in reduced light conditions. With the Army's emphasis on night fighting and lessons learned from Operation JUST CAUSE, an operational need was seen for a night engagement capability.

The Armament Research, Development, and Engineering Center at Picatinny Arsenal, New Jersey, in cooperation with the Infantry School's Directorate of Combat Developments, has tested several models of the night sight bracket and procured some in support of Operation DESERT STORM.

The night sight bracket clamps onto the AT4 tube and allows the mounting of an AN/PVS-4 night sight or an AN/PAQ-4A aiming light. In operational tests the system has been highly effective in allowing soldiers to engage and destroy threat armor under night and low light conditions.

THE LIGHT ASSAULT Bridge (LAB) Program underwent user testing and evaluation in June and July 1990. Because of major faults in the electrical and hydraulic systems, it failed to meet requirements, and the program has been terminated.

DA PAMPHLET 600-3 is being completely rewritten to align with major changes in officer management that include the following: The effects of the Leader Development Study and the Leader Development Action Plan; the establishment of the Army Acquisition Corps; the requirements for joint duty experience; and changes to the Military Qualification System (MQS).

The Infantry chapter is being completely rewritten. It will provide a new life cycle model template that shows the career path for Infantry officers who will be part of the Army Acquisition Corps. Templates that deal with Army National Guard and U.S. Army Reserve infantry officer development are being added.

The pamphlet is used to guide

personnel and career management decisions. It also constitutes the proponent guidance for Department of the Army selection boards.

All Infantry officers should read the revised pamphlet as soon as it is published and discard previous editions. It is expected to be distributed to the field in June 1991.

THE COMBINED ARMS and Tactics Directorate is revising many of the how-to-fight manuals for infantry units. Tactical SOPs are being written that will be included as appendixes in each manual. Several of these manuals have been reviewed by infantrymen in the field and are nearing completion:

FM 7-7J, The Mechanized Infantry Platoon and Squad (Bradley), will be a pocket-size guide for small unit leaders. It will incorporate the 2 x 2 platoon organization and revised squad and platoon battle drills. It is due to be published in the first quarter of FY 1992.

FM 7-8, The Infantry Rifle Platoon and Squad, is scheduled for publication in the fourth quarter of FY 1991, pending approval by Headquarters, Training and Doctrine Command (TRADOC). It will supersede FM 7-70, Light Infantry Platoon/Squad, September 1986. This new manual

covers light, airborne, air assault, ranger, and "straight-leg" infantry units. It will be pocket-size and will include revised platoon and squad battle drills.

FM 7-10, The Infantry Rifle Company, was distributed to the field in February 1991. It supersedes FM 7-71, Light Infantry Company, August 1987.

FM 7-20, The Infantry Battalion, is being reviewed for approval at Headquarters, TRADOC. It will supersede FM 7-72, Light Infantry Battalion, March 1987. The new manual encompasses the operations of light, airborne, air assault, ranger, and "straight-leg" infantry battalions.

FM 7-30, The Infantry Brigade, is being reviewed at TRADOC. The revised FM 7-30 will address light, airborne, air assault, and "straight-leg" brigades as well as ranger regiment operations. (A note in INFANTRY's January-February 1991 issue, page 8, erroneously stated that FM 7-30 would include the operations of heavy brigades. Heavy brigade operations are discussed in FM 71-3, The Tank and Mechanized Infantry Brigade.)

FM 7-90, Tactical Employment of Mortar Platoons, Sections, and Squads, has been reviewed by the field and should be in final draft form in the third quarter of FY 91. It includes updated information concerning mortar employment and provides users with a lethality

A TOP SLING ADAPTER kit for the M16 series of rifles is now available through supply channels (NSN 1005-00-406-1570).

The kit provides about 12 inches of extension when used with the current sling, a top carry configuration that keeps the weapon in a ready-for-use position when carried. It also allows a soldier the free use of his hands when necessary without separating himself

from his rifle. It has a spring-hook quick-disconnect capability when hooked through the front sight post or the front sling swivel.

Currently, 120,000 kits are available, and an additional 40,000 are being procured. The unit cost of the kit is \$1.87, and it can be requisitioned using standard supply procedures.

The Infantry School's POC is Richard Bicknell, DSN 835-5389/3630.

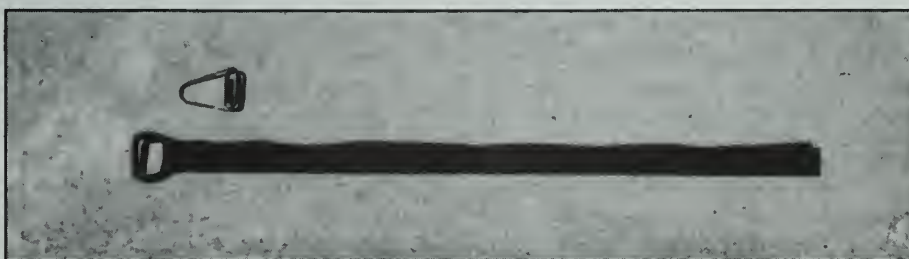


chart that will help them determine how many rounds are needed for the desired effect on a target.

FM 7-91, Tactical Employment of Antiarmor Battalions, Companies, and Platoons, will be distributed as a coordinating draft to infantrymen in the field soon.

FM 7-92, The Infantry Scout Platoon, is a new manual that covers the operations of scouts in light, airborne, air assault, and "straight-leg" infantry battalions. A final draft is expected in the first quarter of FY 1992.

These manuals will provide doctrine, tactics, techniques, and procedures that will guide our infantry forces for several years. The review of drafts by infantrymen in the field is critical to ensuring that the best products are published.

Questions or comments regarding these manuals should be addressed to the Doctrine Division, Combined Arms and Tactics Directorate, DSN 835-7114/4704.

THE NEW SELF DEVELOPMENT Tests (SDTs) for soldiers in Career Managment Field (CMF) 11, Skill Levels 2 through 4 (sergeant through sergeant first class/platoon sergeant), will be fielded for the first time during the 1992 test window. Soldiers in these skill levels took their last Skill Qualification Tests (SQTs) during the March-May 1991 test window. Skill Level 1 soldiers (private through corporal/specialist) will not be tested in 1991, and an SDT is not being developed for them.

The SDT will consist of approximately 100 questions. Sixty percent of the test will be MOS-related, and soldiers should study their Soldier's Manuals for that portion of the test. The remaining 40 percent will be leadership and training questions. These questions will be drawn from the "SDT Packet" (FM 22-100, Military Leadership; FM 22-101, Leadership Counseling; FM 22-102, Soldier Team Development; and FM 25-101, Battle Focused Training).

Like the written SQT, the SDT will play a key role in determining NCO promotions, assignments, school selec-

tions, and retention.

The Infantry School POC is MAJ Quigley, DSN 835-1700, commercial (404) 545-1700.

THE FOLLOWING PUBLICATIONS are scheduled to be fielded by the beginning of July 1991:

FM 23-65, Browning Machine Gun Caliber .50, provides technical information, training techniques, and guidance on this weapon. Unit leaders and designated gunners can use this information to integrate this weapon into their combat operations.

TC 23-5, Bradley Fighting Vehicle Training Devices, provides a general system description of the various training devices, simulators, and simulations that have been developed for use with both the M2 and M3 models of the Bradley vehicle. It also contains suggestions as to how the various items can be used for training purposes.

Change 1, ARTEP 7-10-MTP, Mission Training Plan for the Infantry Rifle Platoon and Squad, adds training and evaluation outline "Breach an Obstacle" to Chapter 5.

In addition, the following coordinating draft was fielded in April 1991:

FM 7-91, Tactical Employment of Antiarmor Platoons, Companies, and Battalions, is the doctrine reference for the employment of TOW platoons, companies, and battalions. It provides tactics, techniques, and practices for TOW units to use in combat operations.

ASSIGNMENT OPPORTUNITIES are available in the 1st Special Forces Operational Detachment—DELTA. DELTA is the Army's special operations unit that has been organized to conduct missions that combine rapid response with the surgical application of a wide variety of unique skills and the flexibility to maintain the lowest possible profile of U.S. involvement. DELTA's soldiers are therefore carefully selected and specially trained.

DELTA gives commissioned and non-commissioned officers unique opportunities for professional development.

Officers and NCOs undergo the same assessment, selection, and training process. After successfully completing this process, they are assigned to operational positions within the unit.

Commissioned officers will have added opportunities to command at the ranks of captain, major, and lieutenant colonel and to serve as executive officers and operations officers. Because of this training and experience, these officers also have a wide variety of staff positions available to them at the Department of the Army, Department of Defense, the Joint Chiefs of Staff, U.S. SOCOM, and other joint headquarters, as well as interagency postings.

There are also many opportunities for noncommissioned officers to serve in the unit in leadership positions and otherwise through the rank of sergeant major and to serve on senior staffs as resident experts and advisors on unique special operations. They will also be given increased levels of responsibility and the authority to complete their assigned missions. They will routinely operate throughout the world either individually or in small, NCO-led teams.

DELTA conducts world-wide recruiting twice a year preceding its fall and spring assessment and selection courses. Recruiting for the fall course began in Europe in March 1991. All other locations will be recruited from May to July 1991.

The general prerequisites for either an officer or an NCO are the following:

- Male, volunteer, at least 22 years of age, U.S. citizen, with no limiting physical profile.
- Active Army, U.S. Army Reserve, or U.S. Army National Guard.
- No history of recurring disciplinary action.
- Airborne qualified or volunteer for airborne training.
- Pass a HALO/SCUBA physical and eye examination.
- Pass a background security investigation and have at least a Secret clearance.
- Pass the five-event physical fitness qualification test (inverted crawl; run, dodge, and jump; pushup; situp; and

two-mile run) and 100-meter swim, all while wearing fatigues or BDUs and boots.

- A minimum two-year commitment upon selection to DELTA.

In addition to these general criteria, NCOs must be in the rank of sergeant through sergeant first class and have at least four years time in service, a minimum GT score of 110, and a passing SQT score in primary MOS (MOS immaterial).

Officers must be in the ranks of captain and major (branch immaterial), advanced course graduates, college graduates (BA or BS), with at least 12 months of successful command (company, battery, troop, Special Forces Operational Detachment-A, or aviation platoon).

Anyone who wants additional information may call DELTA's recruiters at DSN 236-0689/0649; or call (collect) commercial (919) 396-0689/0649.

DELTA is also interested in soldiers in the following MOSs for support roles: 33T3P/4P, 43E3P, 45Z4P, 55R3P, 62B3P, 71L3P, 75D3P, 96B4P/5P. For information on support prerequisites and assignment opportunities, NCOs who are interested may call DELTA's support recruiter, MSG Fred Johnson, at DSN 236-0960/0610 or commercial (collect) (919) 396-0960/0610.

THE NATIONAL INFANTRY Museum was honored to receive the Governor's Award in the Humanities from the State of Georgia. Of the seven awards given, the museum was the only

institution to be recognized.

The purpose of the award is to recognize efforts to improve the quality of life in Georgia and to commend exemplary achievements that have fostered an understanding of cultural traditions and values in the state. A sterling silver medallion was given in honor of this recognition.

The number of visitors to the museum has increased greatly, probably due to the additional troops being trained and processed at Fort Benning during Operation DESERT STORM. The museum is happy to provide a facility that is both recreational and educational for these citizen soldiers and their families to enjoy. The museum also prepared a special display on Operation DESERT STORM that was shown at the Infantry School.

A portion of the museum building has been cleaned to reveal original sandstone architectural features, giving the building a much improved appearance. New carpeting has been installed inside. This \$30,000 project was paid for with nontax dollars, some of which were donations.

A recent donation to the weapon collection is a Swiss Vetterle bolt-action repeating rifle, Model 1881. It was captured on 7 December 1901 during the Philippine Insurrection, a period for which artifacts are somewhat scarce.

The gift shop has a number of items related to Operation DESERT STORM. The items offered for sale include *The Desert Shield Fact Book*, tee-shirts, posters, and coins.

The National Infantry Museum

Society, formed at Fort Benning a number of years ago to assist the museum with financial and volunteer support, is open to anyone who is interested in joining. The cost is \$2.00 for a one-year membership or \$10.00 for a lifetime membership.

Additional information about the museum and the society is available from the Director, National Infantry Museum, Fort Benning, GA 31905-5273; telephone DSN 835-2958 or commercial (404) 545-2958.

M-17 SERIES PROTECTIVE field masks were the subject of a message issued by the U.S. Army Armament, Munitions, and Chemical Command (AMCCOM). (See Maintenance Advisory Message 90-18, dated 311400Z August 1990.)

Subsequently, an AMCCOM memorandum (SUBJECT: Maintenance Advisory Message 90-18 Inspection Procedure Clarification, 7 January 1991) was also widely distributed. The memorandum contains detailed instructions for inspecting both the voicemitter housing and the drink tube lever shaft assembly, along with diagrams.

AMCCOM emphasizes that masks in the M-17 series will protect soldiers, if they are handled and maintained properly and not abused. Any soldiers and maintenance personnel who have not seen the message and the memorandum should find them and read them carefully.





The Army of the 1990s Challenges of Change and Continuity

GENERAL CARL E. VUONO

EDITOR'S NOTE: This article is based upon remarks given by General Vuono, Chief of Staff of the Army, at the Infantry Conference dinner on 11 April 1991.

This is truly a great time to be a soldier in the service of our nation. Perhaps at no time in recent memory has America been more alive with pride in its soldiers — a pride that is evident in the banners and yellow ribbons that adorn our nation from coast to coast and in the dignity and respect with which American soldiers are treated. These emotions are well deserved by the generation of young Americans that fill our ranks today, for they are the best America has to offer.

I have had numerous opportunities over the past several months to visit with soldiers, and the story of our success is apparent in their eyes. There is an intense pride — a pride in victory on the battlefield, in the liberation of Kuwait, and in the defense of freedom throughout the world. And in those same eyes is the heritage of the American infantry — a heritage of dedication and selfless sacrifice.

The magnitude of this success, however, is also a tribute to the Total

Army — not just to the winning team of Active, Reserve, and National Guard soldiers and units but also to our soldiers worldwide, for wherever they fulfilled their mission on the ramparts of freedom, they contributed to and share in the triumph of DESERT STORM.

So in this time of great national celebration, I want to talk about Operation DESERT STORM and discuss the infantry's role as an integral part of the combined arms team in support of our emerging national military strategy. It is a story of change and continuity, change in the environment, in our strategy, and our forces, but continuity of capabilities and continuity of purpose as we move forward toward a new world order.

August 2, 1990 was a pivotal moment in history. It defined the end of one era and the dawn of another. For it was on that day that the legions of Saddam Hussein launched their brutal aggression against Kuwait and threatened the very fabric of the international system. And it was on that same day, on the other side of the world, that President Bush discussed a new national military strategy for the United States — a strategy that would have profound

implications for the total Army and would receive its baptism of fire in the struggle to free Kuwait from its oppressors.

The strategy has its roots in three fundamental factors that define the nature of the international system in the post-cold war era. The first of these, and the most important, is the unambiguous success of our strategy of containment and the collapse of the Soviet empire. The second is the challenge of a world in a state of revolutionary change — a world alive with unprecedented opportunities but also rife with instability and violence. The final factor is, of course, the precipitous decline in the resources that we are able to devote to national defense.

These three factors have led us to move beyond the victorious strategy of containment to a strategy of power projection. And at the center of this strategy stands the American infantryman as the bedrock of the trained and ready combined arms team.

ELEMENTS OF THE STRATEGY

The new military strategy rests on the time-honored principles of deterrence

and collective security. At the same time, the strategy places new emphasis on three additional concepts: forward presence, power projection, and force reconstitution. Each of these is of central importance to the Army and must be understood by all Army leaders as we move into a time of great international uncertainty.

First, as an element of our nation's forward presence, the Army will maintain powerful forces stationed in Europe and the Pacific to anchor stability and to provide a credible capability to influence events in those critical regions. The bulk of this combat power will be armor and infantry divisions — both mechanized and light.

Commensurate with the declining Soviet threat, however, we can — and we will — reduce our forces in Europe to a level appropriate to the challenges we confront. After more than four decades along the Iron Curtain, many of America's forces can now come home, and they are coming home in triumph — the guardians of an historic victory symbolized by the battle streamer which was recently awarded to the 1st Infantry Division (Forward) on behalf of a grateful German nation.

The concept of forward presence is, of course, more than simply stationing forces. It requires challenging joint and combined exercises that involve rotations of forces to Europe and Asia as well as deployments to other areas.

The heart of our new military strategy lies in the second element — the projection of power from within the continental United States to trouble spots around the world. If we are to

use our Army to best effect, we must now concentrate our forces and rely on our ability to project power swiftly and massively to advance and defend our vital interests.

These forces will be coiled in readiness to immediately deploy, fight, and win. From this powerful grouping of armored, mechanized, light, and special operations units, we will tailor the package that is appropriate to the threat that we confront.

Power projection also requires that the Army have the capacity to reinforce our combat forces that are deployed either in forward positions or power projection missions. A critical element of these power projection forces will be our active component divisions rounded-out by the maneuver brigades from the National Guard. For more protracted or larger-scale conflicts in Europe or elsewhere, the Army will rely on its remaining reinforcing units — the combat divisions of the National Guard.

The final aspect of the strategy is the requirement to reconstitute the force. Reconstitution — put simply — means the generation of additional forces from units that are either not fully manned or must be mobilized as we did during World War II. In this regard, we are examining the utility of establishing cadre divisions — units that would have leaders and equipment during peacetime but would be filled with a complete personnel complement during times of national emergency.

That is the essence of our new strategy: forward presence, power projection, and reconstitution. It is a laser-like strategy that focuses our forces

along a beam of concentrated power and energy to accomplish our national objectives.

DESERT STORM

Seldom has a national strategy been more quickly tested by fire. For, even as the president was announcing the strategy, the Iraqi Army stood victorious in Kuwait and was poised like a dagger at the throat of the entire world. With virtually no American forces forward deployed in the region, the United States faced the monumental challenge of projecting credible, capable combat power from the United States and from Europe.

The immediate goal was to demonstrate to Saddam Hussein the unambiguous resolve of the United States. The President accomplished this objective by using the most credible instrument at his disposal — the American soldier. Indeed, when the time came to demonstrate the resolve of the United States, the President drew a line in the sand with the bayonet of a paratrooper from the 82d Airborne Division.

Beginning with those first, uncertain days of August, the United States and our coalition partners methodically built a mighty force that could withstand the power of the Iraqi Army. It was that same force that would ultimately drive the forces of Saddam Hussein from Kuwait. Those who would contemplate challenging the United States would do well to remember the images of the fourth largest Army in the world crushed and burning in the wake of the most overwhelming onslaught of military power in the history of our nation. The 100 hours of the ground offensive clearly demonstrated what power projection is all about.

DESERT STORM was a triumph for our strategy and for the combined arms team. But it is also a victory in other, more direct ways. It was a victory for the American soldier — for men and women who are courageous in war, compassionate in peace, and committed to the defense of our nation. It was a victory for the infantrymen who, by



breaching the Iraqi defenses, led the way for the penetrations that ultimately outflanked and destroyed the Republican Guard. It was a victory for the infantrymen who conducted an historic air assault operation deep into Iraq in order to seize key terrain along the Euphrates River Valley, and it was a personal victory for the infantry sergeant who, although his own Bradley was hit when he dismounted his squad to help wounded comrades, calmly evacuated all the wounded while still under fire.

In each of these instances, and many others like them, these soldiers nobly upheld the infantry motto — Follow Me!

CHALLENGES

But we cannot afford to rest on our laurels. We face many challenges in the future that we must attack with the same resolution we displayed during DESERT STORM. I have grouped these challenges under three vectors, each of which must be successfully addressed as we move through the decade of the 1990s.

The first vector is DESERT STORM. Although the battlefields are now quiet, the Army must continue the arduous process of redeploying our combat power from the theater, and of reconstituting the force. We must return equipment and personnel to high states of training and readiness as we get our leader development program fully back on track.

At the same time, we must tackle the second vector — the sustainment of readiness worldwide. We have won three wars in less than 18 months: DESERT STORM, JUST CAUSE, and most importantly, the Cold War. We have no guarantee on how long it will be before we must deploy forces again. We only have to look to Operation PROVIDE COMFORT — begun before we have completed DESERT STORM — to illustrate clearly that we must be prepared to respond without hesitation to the contingencies of an uncertain future.

Finally, we must look ahead and continue the disciplined evolution of the



Army into the force the nation will need to fulfill our strategy for the mid-1990s and beyond. In the years ahead, we will shape an Army of 20 divisions — active and reserve — an Army that will be the smallest since the eve of World War II. We must shape this smaller force in order to preserve training, readiness, and, above all, quality — the essence of the force that fought and won in DESERT STORM.

By the mid-1990s, we will have an Army that is perilously small for a nation with the global interests of the United States. It will be a force that is at its irreducible minimum. We, therefore, must reduce the force carefully, deliberately, and over time while ensuring that we sustain readiness and that we treat our soldiers with the dignity and respect they deserve.

As daunting a challenge as this may be, I believe that if we are imaginative, if we are determined, and if we are responsible, the result will be an Army that has the necessary characteristics to operate effectively in the strategic environment the United States will confront into the next century.

It will be an Army that is versatile in its ability to respond to a wide range of requirements in multiple theaters with force packages appropriate to the threats our nation will face. It will be an Army that is deployable in its ability to project power rapidly and massively throughout the world. It will be an Army that is expandable — able to grow rapidly to meet a resurgence of Soviet adventurism or the rise of violence wherever it threatens our interests around the globe. Finally it will be an Army that is lethal and can fight and win on any battlefield at any time. The

violence unleashed during DESERT STORM only foreshadows our future capabilities. That is the Army the nation needs, and that is the Army that we must build.

VISION AND CONTINUITY

We can only achieve such a force if we have a clear vision for the future and if we are unyielding in our adherence to the guidelines that have been validated in the crucible of combat. The vision is of a trained and ready Army, today and tomorrow, capable of accomplishing its strategic mission anywhere, anytime. The architecture by which we achieve this vision is nothing less than I described in INFANTRY last fall: The Army's six fundamental imperatives — principles that are now firmly embedded in the Army at all levels. They are of profound importance and will provide the requisite continuity to see the Army through the coming years. As I review the imperatives, I challenge every leader to consider again how to apply them to develop better soldiers.

The first imperative — first listed and first in importance — reminds us that we must maintain the quality of the force throughout the total Army. We have achieved levels of quality unprecedented in our nation's history, and this must now be the unalloyed standard for the future as well.

Second, we must maintain an effective warfighting doctrine. At no time in our history has doctrine proven its importance so decisively. AirLand Battle is now part of the lore of America — manifest in the images of infantrymen assaulting from the skies hundreds of

miles behind enemy lines and of infantrymen in Bradleys racing north alongside Abrams tanks to seal the fate of the Iraqi Army.

And finally, AirLand Battle had its most eloquent expression in the striking image of the entire combined arms team crashing violently against the unsuspecting Republican Guard to destroy organized Iraqi resistance.

We must now ensure that our doctrine continues to evolve so that it will be as effective on the battlefields of tomorrow as it was during DESERT STORM. This is the task of AirLand Battle-Future. However, developing new doctrine is only part of the challenge. Success in the future will demand not only that every infantry leader understand our doctrine, but that he also bring it to life through tactics, techniques, and procedures that win in battle.

Third, we must maintain the right mix of forces — armored, mechanized, light, and special operations — within our active and reserve components. This has particular importance for the Queen of Battle because it underscores that we can no longer afford to have infantry leaders who are expert in only a single dimension of the mix of forces. Every one of you must understand that you cannot be solely light or mech or airborne or air assault or special operations — you are infantry and a principal member of the combined arms team.

Fourth, we must continue to train to tough, realistic standards — standards that are uncompromising in application and uniform across the entire force. We have a solemn obligation to our soldiers to ensure that they are as trained as we can make them. It was training that created the skill that permitted a Bradley gunner to engage and destroy two T-55 tanks in a matter of seconds and yet have the discipline to hold his fire when a white flag was raised from the turret of a third. One young infantry captain observed that it was difficult at times to remember he was at war because it was so much like his rotations at the National Training Center. The payoff for this investment in training was evident in the destruction of a

powerful army, in the low casualties our forces suffered, and in the confidence conveyed by the simple statement of one of our returning soldiers. "When fear kicks in," he said, "training takes over."

Fifth, we must continue to modernize both our active and reserve component forces. In the sands of the Arabian Desert, we witnessed the life and death difference that modernization makes. The Bradley, so unjustly maligned in recent years, proved its worth in combat and provided an excellent example of the importance of modernization. Readiness rates remained at 90 percent or higher even in the intensity of battle. The Bradley helped set the blistering pace of the attack that was the hallmark of DESERT STORM. In a smaller Army, modernization will become even more critical throughout the total force.

Finally, we must continue to develop leaders — sergeants and officers — who are competent in the art of war. Gone are the times when all the infantry leader had to do was to stand at the head of a massed formation and point a sword, spear, or musket in the general direction of the enemy. Today, the modern infantryman must master a variety of individual skills and understand the integration of all elements of combat power. He must be responsible for his soldiers and committed to the defense of the nation. Consequently, we must now reapply the leader development programs with universal and renewed rigor.

At the unit level, you must provide operational assignments that develop the leadership skills of our young infantry officers and sergeants. At the same time, there must be incentives and role models for them to pursue self development. Perhaps most importantly, however, leaders must send their subordinates to the requisite schools, even if it means short term challenges to the organization. Remember, this is an investment not only in the future of our Army, but also the leaders we develop today will be our most enduring legacy to our country.

Above all, we must remember that we are soldiers and leaders — and as soldiers and leaders, we must apply these

imperatives without compromise and without equivocation. For they are the blueprint for shaping the Army that the nation will require in the tumultuous times ahead.

CONCLUSION

Again, let me underscore the importance of the imperatives with a story — a story that goes to the heart of the phrase "trained and ready."

Our story begins in the early days of June 1950 with the elements of the U.S. Army serving on occupation duty in Japan. Nobody expected a war — and nobody wanted one. Nonetheless, as the spearhead of the United Nations' response to North Korea's naked act of aggression, Task Force Smith was scraped together from the occupation forces and dispatched to stem the onslaught. Task Force Smith had courageous men, but it was ill-prepared, undermanned, and ill-equipped — abandoned by a nation that had lost its vision of a trained and ready Army. Consequently, thousands of Americans died and our forces were nearly driven into the sea by a nation that, although impoverished and backward, was militarily prepared.

Our story now leaps ahead more than 40 years and half a world away. The soldiers of America's Army were again among the first to fight — walking point in an international coalition. But this time, they were trained to a razor's edge, led by sergeants and officers of unparalleled ability, and equipped with the finest weapons our nation could produce. Eight American Army divisions marched in secrecy through the desert, turned north into Iraq on 24 February, raced hundreds of kilometers, and waded into the heart of the Republican Guards, destroying division after enemy division and hundreds of Iraqi tanks until no organized resistance was left. All of this was accomplished at the cost of fewer than 100 soldiers.

But the rest of the story remains to be written. You and I are the authors who will define the Army of the future. As we move forward, we must never

forget that the high esteem America holds for its Army today has been purchased by the efforts, dedication, and, indeed, the blood of our soldiers. We have a sacred obligation to the soldiers of the future and to the soldiers of the past — to all the Task Force

Smiths that have gone before and to all the soldiers who have laid down their lives never to permit our Army to be anything but trained and ready, and our soldiers to be led by anyone other than dedicated professionals who are competent, responsible, and committed. In

this task, we cannot fail, must not fail, and will not fail.



One Place, Three Wars: Part 1

MAJOR GENERAL BERNARD LOEFFKE

EDITOR'S NOTE: This is the first of a two-part series. Part 2 will appear in our July-August 1991 issue.

To understand the United States' involvement in Vietnam is also to understand why we react as we do during crises. Our generals today were lieutenants, captains, majors, and lieutenant colonels during that war, which took more than 50,000 U.S. lives and lasted more than 10 years. As a result, most of us who are generals now, when we have to make decisions, refer consciously or subconsciously to our experience in that war. (Reading history, hearing lectures, and participating in maneuvers also assist us in preparing for combat, but nothing influences our decisions as much as our combat experiences do.)

Those of us who chose the profession of arms in the 1950s have spent the better part of our lives either preparing to fight or actually fighting communists or those supported by communists. For many of us that experience has been painful, to some final, but for most the exposure to actually fighting a committed opponent has been personally disquieting.

Let me explain. Although my experience at the U.S. Military Academy at

West Point gave me an education, it left me unprepared for my first encounter with a communist. I had studied history but not how to be convincing in an argument with an educated communist. Today, because much of communism has been discredited by those who have tried to live under such a system, it is easier to defeat a communist verbally. But the dream of a more equitable society continues in the hearts and minds of many. In 1990, Latin American rebel leaders were saying, "Communism may not have worked in the Soviet Union, but we'll make it work here." These same rebels were saying that capitalism may work in the United States, but it doesn't work in Latin America.

Throughout history, man, in his attempt to create a fairer society that would ensure happiness for all, has experimented with different social systems. Greek philosophers wrote about the fair distribution of wealth, a theme also discussed in the Bible. Dissatisfaction with present systems will continue and will create friction. Peace is not at hand. Soldiers are still needed. But are the lessons we learned in Vietnam applicable today? Some are.

What follows is one soldier's attempt to document the lessons learned in his military career in the hope that the

mistakes of recent history will not be repeated. My three "wars" in Vietnam provided very different experiences.

My initial involvement was part of an attempt to limit communism by using small groups of Special Forces soldiers. To keep our presence small, we sent volunteers to work with indigenous personnel. We trained them, helped them with equipment we gave them, called in air support, and, when needed, assisted in combat operations. This was my first war.

As the adversary raised his level of violence, we began to introduce advisors into the regular units of our allies, which gave us first-hand exposure to the techniques of employing large units in combat. Unfortunately, most of our advisors in this, my second war, served for only one year. After the year's tour, another American would arrive, forcing the Vietnamese to begin the education of their advisor for the third, fourth, fifth, or sixth time. (The Vietnamese had a favorite saying: "Americans have been here one year 20 times.")

In a war, there is no substitute for personal experience in making the would-be warrior wise. Therefore, the lessons I learned from my Vietnamese colleagues in the first two wars did prepare me to fight my third Vietnam war with U.S. troops.

I began learning to be a warrior at West Point in 1953. (Education, it has been said, is what remains when you can no longer remember the facts.) Along with the concepts of duty, honor, and country, what remained from West Point for me were the following five lessons:

A warrior has to conquer fear. Boxing, a requirement for all cadets, was for me the most demanding physical experience at the military academy. I had never been inside a ring, and having to fight a determined opponent was a good lesson in courage and aggressiveness.

In my first fight I was knocked down several times. At the end of the fight, I commented that it was an unfair battle because my opponent was more experienced. My instructor said, "Mister, you didn't learn your lesson." When I asked what that lesson might be, he answered, "In combat you never get to choose your enemy."

That one phrase has made me push soldiers harder than they may have thought they could be pushed so that they would be better prepared than the enemy in combat.

Sports build a warrior spirit. On the wall of the gymnasium was the famous quote from Douglas MacArthur: "On the fields of friendly strife are sown the seeds that on other days on other fields will bear the fruits of victory." At West Point I learned how important it is to provide athletic opportunities to warriors. Competitive athletics and combative sports give soldiers confidence, stamina, and physical strength — qualities they need in combat.

A warrior must organize his thinking. The discipline at the military academy was not only physical, it was also mental. I was not one of the best mathematics students that West Point had ever seen. The hard sciences were difficult, but the mental discipline they created helped me develop logical thinking.

Every officer is a teacher. I learned at West Point the value of studying. We used to say that the academy had examiners instead of instructors — they tested us daily. In the Army we learn

from manuals and then teach soldiers what we have learned. The principle of self-instruction prepared me to be an officer.

History teaches how to win wars. Reading history exposed us to what wins and what loses conflicts. We studied countless battles and the relevance of the nine principles of war to winning these conflicts. (From the nine principles I later developed ten maxims that I called the Ten Ds for fighting subversion. I used these rules as the commanding general of U.S. Army South to construct a strategy for defeating subversion.)

After graduating from the Academy, a number of us attended airborne school where we learned to conquer fear. Jumping out of an aircraft increases confidence and courage. Then came Ranger school, which taught us that with little food and only two or three hours of sleep we could do what seemed humanly impossible. These courses prepared us to survive in combat.

I then reported to the 82d Airborne Division, but that tour was short-lived. The Special Forces were looking for officers who could speak French; I volunteered and was accepted. Knowledge of languages would become important in my career. I was the first of my classmates to taste combat simply because I spoke French. Knowledge of Russian would later assign me to Moscow, and Chinese would make me the first foreigner to jump with the Chinese Communist troops.

THE FIRST WAR

Special Forces taught me and my colleagues how to be accepted in foreign lands. In trying to gain the confidence of strangers, three skills proved valuable:

First, healing is especially effective when dealing with primitive people; some of them treat healers like gods. One of our first activities was to set up a dispensary wherever we went and begin healing those whom we would have to advise or befriend. Soon we gained our hosts' confidence, and they in turn were willing to do what we asked of them.

Second, we learned to do magic tricks. One that amused our hosts night after night involved three sticks. One had a rattle in it, and the object of the game was to guess which one. We would pick one of the sticks that did not rattle, show it to everybody, and make it rattle. Unknown to those who were watching, the demonstrator had a rattle between his fingers, hidden from them. When he put the stick down on the table, he would move it around slowly so the audience could easily follow what they thought was the stick with the rattle. A volunteer chosen by the group would then try to choose correctly, which, of course, he never did. This went on night after night while the natives laughed and roared when their representative missed the stick with the rattle.

Third, some of us sang and played musical instruments. At night we would gather around and one of us would play tunes, usually on a harmonica. The natives would listen attentively. We would then make sounds that they could echo and soon we had a chorus.

Training our hosts to fight was not difficult; they were already warriors. What we needed was to teach them the techniques of using modern weapons. By befriending them with medicine, magic, and music, we were able, in a short time, to train a fair size force that knew the basics of shooting, moving, and communicating.

Out of this war I learned the importance of being accepted. As an old sergeant once said, "Soldiers won't care what you know until they know that you care."

I also learned from this experience that we should not volunteer to assist another nation if we are not serious about the durability of our offer. As a young lieutenant, I saw U.S. troops pulling out from a base camp that was about to be overrun because Americans were not to be captured. We boarded the aircraft under direct orders and left our friends to fend for themselves. We would repeat this same action 12 years later. These two episodes hardened my conviction that the United States should not commit itself to something it couldn't see through. Patience and

stick-to-itiveness will bring success, sooner or later.

I returned to Special Forces headquarters at Fort Bragg, and two events worth mentioning occurred during my tenure there.

I was assigned to a demolition team where we practiced parachuting from high altitudes with explosives. One day I didn't properly adjust my pack to my parachute harness, and when I opened my chute at the prescribed altitude the bag with the explosives was ripped from my harness and plummeted down some 500 feet. Fortunately, no damage was done to anything but my pride. This taught me the necessity of checking and double-checking equipment before operations.

The second event was acting as translator. Brigadier General Joseph Stilwell, who was then Chief of Staff of the XVIII Airborne Corps (a position I would assume some 20 years later), asked me to translate his remarks to a group of officers from the Brazilian War College. I had not looked at a Portuguese book or spoken the language since I left West Point. General Stilwell spoke for a long time, making it difficult for me to remember everything he said, and I know I left out several points. Then he ended his presentation with an anecdote I did not understand. I so informed the Brazilian officers with the request that they please laugh at the General's joke. The Brazilians roared and General Stilwell was satisfied that the talk had been that well received. I survived that experience and my promotion to captain was rescued. From this experience I learned the importance of interpreters as they can change what is said. Someone needs to check the interpreter.

Orders then came assigning me to Brazil, a welcome rest before going once again to war. I arrived at a time of turmoil. The military forces were about to oust a civilian-led government and begin a long stay in power. (As a reminder of these times I kept copies of censored newspapers in which most of the front pages were left blank because they did not meet with the censor's approval.)

My most memorable event there was leading a parachute jump into the middle of the Amazon jungle. In my desire to avoid falling into the river, which was full of alligators and man-eating fish, I opted for jumping into the trees. (As a result of that jump, I was affectionately called the American Tree Officer.)

I left this two-year assignment with a respect for triple-canopy jungle and for light, long-range communications and skilled navigators. Being lost in the Amazon is dangerous.

I also saw there the effects a sedentary life can have on an individual. Two tribes that were no more than 15 miles apart had stark differences in their physical make-up. The people who were hunters, who ate meat and spent a great deal of time hunting their prey, were strong, tall, and healthy. Those who had become farmers were smaller, not as healthy, and not as strong. This contrast emphasized that warriors are hunters.

THE SECOND WAR

My second war in southeast Asia was as an advisor to a Vietnamese parachute unit. It was a strange experience. We fought intensely for a couple of days and then were free to swim and play tennis in Saigon. Most of the blood was being shed by the Vietnamese. We assisted by calling in air strikes, evacuating the injured, adjusting artillery, and making sure supplies were delivered.

We also experimented with new ideas. One of these was called Eagle Flight. The idea was to use a helicopter flying at low altitude to attract fire. As soon as the fire was received, the enemy position was radioed and troops in other helicopters would assault that position. We did this successfully for months; then the enemy learned our tactics and our casualties increased.

This was the start of the education of U.S. officers in the handling of large units. It was also my education on how to fight from the air. I made my two combat jumps that year. On the first, I was greeted by a strong wind that

wouldn't allow me to collapse my chute. (We had no capewell releases in the parachutes of those days.) It was the monsoon season, and I kept skidding through the paddy fields and slamming into dikes. Some of the soldiers who were killed were knocked unconscious when they slammed into dikes and then drowned. We looked like we were water-skiing behind our parachutes.

This combat jump was costly in equipment as well. Trying to get out of my chute, I lost my weapon, binoculars, helmet, compass, and canteen. Several mortars, heavy machineguns, recoilless rifles, and radios were lost in the flooded paddies. It took us the better part of two hours to start moving toward the objective. The only paratrooper who was able to apprehend an enemy was the commander's cook. Landing on top of a sampan, he captured one enemy soldier on it and killed another.

I learned that isolated outposts need to feel that they will be reinforced if they will only hold out and fight until help arrives. Our policy was to reinforce any unit within 24 hours after it reported being attacked. A defender therefore knew that if he could hold out for 24 hours he would be reinforced.

We had units that slept under the wings of transport aircraft waiting for the word to go into combat. Parachute operations validated the importance of providing hope to units that were surrounded and alone. This second war emphasized air power. We could not get to our objective without the Air Force. And once there, we were usually outside the range of friendly artillery and had to rely on the Air Force for both cover and reconnaissance.

Vietnamese paratroopers made many combat parachute jumps. Their battle drills were simple and well executed. After a jump, we would always reorganize with Alpha Company to the north, Bravo to the east, Charlie to the south, and Delta to the west.

Even though I had had a previous combat tour, I learned a number of lessons from this second experience. Here are several that I shared with an interviewer on my return:

Perspective. The perspective of a

front line officer differs markedly from that of an officer who sits comfortably in an office and is not in harm's way.

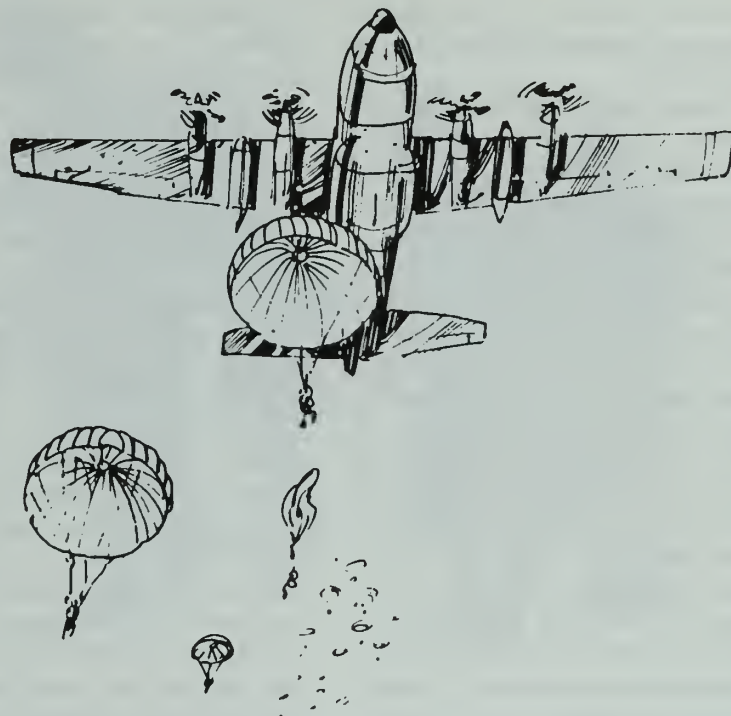
Never carry two weapons with different ammunition. I went into combat with a carbine (for firing at long range) and a .45 caliber pistol (for close range protection). One time, after we had been in a long firefight, I ran out of ammunition for my carbine and found the .45 useless for anything over 15 meters away. From then on, I carried a rifle and grenades.

Never wear anything white. On my first day, I was deposited on top of a hill by a helicopter that was under fire the last 400 meters into the area. I was rushed off to the battalion commander for a briefing.

The unit had been in the area for 15 days and had encountered enemy in almost every direction. It could be said that we were surrounded. The battalion was waiting for a Marine Corps unit to get within two or three kilometers before trying to push out from the hilltop. We would wait for it ten more days, all the while patrolling aggressively to keep the enemy from firing into our inner perimeter.

That first night, I was awakened when mortar rounds started coming in. I dropped out of my hammock into a shallow hole that was full of rain water. As the rounds continued, I decided to make a dash for the command post, which I knew had overhead cover. As I was running literally for my life, I felt small arms fire hitting close by. I jumped into the trench surrounding the CP and crawled inside. The battalion commander and the operations officer were calling for artillery. The commander looked up and said, "You were lucky you weren't killed with that white shirt. White makes a beautiful target at night for enemy snipers." I learned that the enemy would crawl close to the perimeter under the protection of their mortars and shoot at anything that moved.

I discarded all my white T-shirts and traded C-rations and a compass for Vietnamese shirts. (It wasn't until later on in the 1960s that the U.S. Army changed from white to olive drab T-shirts.)



Dig to protect yourself from incoming rounds. Those 10 days convinced me that the best protection against mortars and artillery was to be well dug in. Units that did not dig in suffered casualties when attacked by small arms and indirect fires. Our deep trenches saved us from the nightly shelling.

Learn the value of chickens and ducks. The Air Force dropped parachute boxes of live chickens and ducks, and we put them out on the perimeter for security. The ducks especially would alert us at the slightest movement in the perimeter. Vietnamese soldiers would often march with live chickens or ducks inside their backpacks, and the duck heads sticking out of a long row of packs made an interesting sight. As the food supply dwindled, we would cook the ducks and chickens. History tells us that the Romans also used geese to warn them of intruders, but many of us have forgotten this useful history lesson.

Even so, we fell into three ambushes during my tour with this parachute battalion. The one that lingers in my mind was the first. We had been trailing a Viet Cong patrol for more than an hour when we were attacked from the rear. The enemy patrol had simply

doubled back, trailed us, and then attacked. We lost two men.

Learn how to use air support. The effectiveness of air support depended on the terrain. Although air support was very effective out in the open, in triple-canopy jungle, it was not.

Different weapons are needed for different terrain. Our parachute battalion was a general reserve unit that deployed wherever there was trouble. It was not uncommon for us to be fighting one week in the open spaces of the southern part of South Vietnam and the next week in triple-canopy jungle near the northern part.

Whenever we knew we were going into triple-canopy terrain, we jumped with Thompson submachine guns. When you can't see more than three to five meters in front of you, the Thompson is the best weapon to use in saturating an area with a heavy volume of fire. When we met the enemy in this type of vegetation we could not see him, but we could hear the whine of bullets coming in our direction. The best way to respond to such an attack is with a heavy volume of saturation fire. When we fought in areas where the visibility was better than 15 or 20 meters, we used the M1 rifle with its

long-range capability. The M1 fire was accurate and most of the time we fired single rounds.

Officers should learn to fly, if at all possible. During many of the air assaults that we conducted, it was not uncommon for me to be completely lost. Almost every time we went somewhere, the area was unfamiliar, a new area with different vegetation and terrain from the previous one. I would know basically where I was going from having studied a map, but the aircraft often circled in different directions and it was easy to lose my bearings. I swore that for the next war I would be better prepared to lead from the air, and decided to learn to fly. After that second war, while attending the Armed Forces Staff College at Norfolk, I would take off early afternoons and fly. Flying taught me radio-telephone procedures, weather, and how to navigate and orient myself in unfamiliar terrain. I also learned the capabilities and limitations of aircraft; in particular, I could now ask pilots to do things they had previously told me they could not do.

Flying also teaches several other valuable skills. One of these is using a radio. Most of the time during a battle soldiers will not see their commander but will hear his voice. A clear voice instills confidence, and pilots are experienced radio operators. The more you use the radio the more confident you sound. When you fly, you are constantly on the radio talking to a tower or to a radar controller asking for directions or the weather or requesting landing instructions.

A pilot also becomes a good navigator and a good weatherman. From the moment he takes off, he navigates in a very detailed manner because his life depends on his accuracy. Similarly, a pilot becomes an expert in forecasting and acquires great respect for the limitations of light aircraft in clouds and storms.

THE THIRD WAR

The third war was very different from the first two. We were now fighting with

U.S. troops who were overwhelmingly draftees. The infantry battalion I commanded was more than 96 percent draftee. The majority proved to be excellent soldiers who fought well. Many, however, did not want to be in the Army, much less in Vietnam. A common statement at that time was, "Hell no, we won't go." In the United States, many were refusing to be drafted. In Vietnam, our units had a quota of the soldiers we could put in jail and no more. The jails were overflowing with soldiers who had refused to go into combat.

Fighting a war with draftees who were not interested in being in the Army or in Vietnam challenged our leadership abilities. Making it even more challenging, many of the professional NCOs who had been in Vietnam in the early 1960s were gone from the combat units. Many had been either wounded or killed or had transferred to less dangerous specialties. As a result, this last war was fought with many NCOs who were draftees themselves, but who were promoted in combat because of their leadership ability.

It was during this tour that I learned lots of lessons. I remember once being criticized for not being at my battalion command post. I managed to convince my brigade commander that the war was mainly a platoon leader's war and that a battalion commander needed to know personally the conditions that existed at platoon level.

I decided I would spend most of my time in the forward companies with my artillery fire support coordinator and a communicator. In Vietnam, we had battalions of four infantry companies each. One of those companies was almost always in combat, and I felt it necessary to be with that unit. In the evenings, I would join the night patrols. The first day I took over, I accompanied a patrol and was amazed at what I found. Noise discipline was poor with widespread snoring; each patrol had an excessive number of personnel; equipment was not tightly tied down; rehearsals were not conducted; claymores were badly located. In short, a disaster. The well-known statement that "the unit

does well only what the commander checks" was proven that evening.

From then on I accompanied at least three night patrols a week. This forced lieutenants and company commanders to go on night patrols more frequently. The number of soldiers in a patrol was decreased to no more than 15. This put everyone on alert, as they knew this size force could not survive a surprise attack.

Another reason I went on these patrols was that the morale of the battalion was low. Officers were not exposing themselves to the same dangers the soldiers were, and those dangers were mainly encountered on night patrols. Without supervision, infractions were frequent and few were being corrected.

To reduce the deficiencies found in those patrols, we began requiring at least three rehearsals before granting a patrol permission to leave the base camp. The first was a talk-through with each man explaining on a sand table, or sketching on the ground, his position and actions in the patrol and on the objective. The second was a walk-through of the actions the patrol would take on the objective. The soldiers put out their claymores to make sure the wires were not tangled and the claymores were sighted in the right direction. They rehearsed their resupply and our battle drills. Then the third rehearsal was done at the quick time.

No matter how experienced we became, however, we always found during our rehearsals mistakes that needed correction. One reason for this was the constant flow of new troops into the companies — replacements for the wounded, killed, or those who had served six months in combat — and they had to be trained.

To correct the problems with snoring, we took the suggestion of a young soldier that all snorers put their gas masks on before sleeping. It worked.

Rain hitting our ponchos created another kind of noise, a metallic sound the enemy could hear. To solve this problem, we began using captured Viet Cong ponchos. These ponchos were made of soft plastic and did not make noise in the rain. It was ironic that the

best-equipped army in the world was discarding its rain gear and using the enemy's.

To prevent ambushes, we instituted what we called the zigzag requirement. Our rule was that we would not march longer than one hour in a straight line. After one hour we had to change our direction of march. Also, if we were in areas where we thought there might be many enemy soldiers, we would stop and stay as quiet as possible for two minutes or more so we could hear everything that was happening around us. We would frequently double back to see if anybody was following us, and on one occasion captured three Viet Cong soldiers who were trailing us.

The most effective weapon for us at the squad and platoon levels was the claymore. It was very good in the defense and gave us firepower over a wide area. It was also effective for breaking contact with a pursuing force. We found, though, that the claymore had to be demonstrated to convince the troops of the lethality of its rear blast. One of our night patrols illustrated this well. We had set up our defensive positions and settled down to wait. After two hours, one soldier noticed three Viet Cong soldiers passing through the field behind the claymore. He was reluctant to activate it because he didn't think the backblast would do anything more than scare them. Instead, the three enemy soldiers were engaged with small arm weapons, and two of them got away.

Later that day, we showed the patrol the effectiveness of the claymore. Its rear blast is deadly up to 16 meters. It will incapacitate anyone within that distance. Its front radius is 50 meters, and it is deadly when placed on trees and trails. We used it often to break contact with a reaction force bigger than ours. We slowed it down by setting up claymores behind us. As the enemy closed in, we activated the mines and forced the enemy soldiers to deploy and scout out the position before continuing their pursuit. This gave us enough time to move out of the area.

We discovered, too, that our resupply procedures were giving away the location



of our patrols. We learned from captured documents and prisoners that the enemy placed people in the tops of trees so they could see where the helicopters were dropping supplies or where they were landing. The enemy then used this information to prepare ambushes.

One method of resupplying patrols that were sent out for long periods of time was the use of caches. We would hide supplies in certain areas, then come back with patrols and use those supplies. To deceive the enemy, our helicopters would drop dummy resupplies (old newspapers and empty boxes) at five or six areas, hoping to lure the enemy to those areas. The helicopters would loiter at the dummy areas but would drop supplies quickly at our true location.

One problem we had to solve was how to signal our position to the helicopter without using smoke. We devised a sturdy balloon that we would push through the canopy until it was flush with the top of the trees. It could not be seen from the horizon, but a helicopter flying overhead could easily spot the location.

We were fortunate to have an overabundance of air assets. In fact, there was a standing order that if we came in contact with the enemy and did not call for air support within five minutes

of that contact, we would have to explain in writing to our brigade commander why we had not.

Again, air support in triple-canopy was not effective. To use it, we needed 500 meters separation from the target. Artillery had to be shut off while air support was being used. In triple-canopy we normally made contact with the enemy no more than 5 to 20 meters away. We would then have to withdraw 500 meters, so the enemy soon learned how to survive air strikes. They had a tactic called "Hug the belts of the Americans." As we withdrew they advanced, because they knew that bombs were going to be dropped on them if they didn't.

Before the actual drop, we had to identify our front lines. We would use smoke grenades, but by the time the smoke went through the triple canopy, it did not show an accurate position. The smoke also would give our positions away to the enemy. We were literally carrying more smoke grenades than ammunition. We decided to substitute the front of an M79 shell with tightly rolled engineer tape and fired this shell through the tops of the trees. When the shell exploded, the tape unfurled and lay on top of the trees.

Armor also played a role in this war. Before this third combat tour, I had

been convinced that armor could not be used effectively in thick jungle, but I was wrong. By the end of the tour, I would have traded a company of soldiers for one armored vehicle.

In the jungle, a great majority of our casualties were caused by booby traps or by enemy fire from field fortifications that we could not see until we were on top of them. We sustained many casualties because of this. An APC or a tank moving through the jungle does something a soldier cannot do — it crushes the vegetation in front of it and explodes booby traps that could have killed or injured a man. These same booby traps do almost nothing to a tank. As the vehicle pushes through trees and vegetation, the debris also covers the firing ports of the enemy's pill boxes. This forces the enemy soldier to come out of his hole and engage the tank with an antitank weapon. At that point, our infantry can protect the tank by engaging the enemy soldier in the open. Light armor has an important role in jungle fighting.

On one occasion, we encountered gas, and it had a devastating effect on our unit, demoralizing a company in a very short time. We had been out in the jungle for almost 10 days when we saw a Viet Cong sniper who had just fired run into a hole. We followed him, and a volunteer went inside the hole with ropes around him so we could retrieve him. When we pulled him back to the surface, he collapsed. Our medics who gave him mouth-to-mouth resuscitation also collapsed. Within five minutes, we had four casualties around the hole.

We moved these soldiers away from the area and placed a shaped charge where we thought the cave was. When we exploded the charge, gas was released into the air from the hole. We yelled

for everyone to mask. Four soldiers lost consciousness. Fear began to spread that the gas masks were not providing protection against this particular gas. As blisters began to appear on one soldier's skin, someone yelled, "mustard gas," and we had panic on our hands.

The fear of soldiers who have lost confidence in their gas masks is tremendous. This is a technique that can quickly bring panic into any unit. Iraq used this type of warfare to its advantage in its war with Iran.

After every operation we had a mandatory after action critique. The success of this activity depended largely on the leader. We found it beneficial for the leader to start it by criticizing his own actions. These after action critiques were invaluable in learning what had happened.

Since morale was a problem, a system of rewards became even more important than usual. To reward outstanding soldiers, we devised a "foxhole exchange program." It worked this way. A company commander would identify the best soldier in his unit and I would send him back to sleep in my tent while I replaced him in his squad. The exchange program was a great morale booster — all the soldiers wanted to sleep in my tent and eat hot meals in the rear area. It also enabled me to see personally what our soldiers were doing.

I remember one letter that was written by a soldier: "Dear Colonel, I thank you for letting me exchange places with you. The men also appreciate what you are doing. However, I still don't like the Army and I still don't like officers. As a matter of fact my favorite prayer goes this way: 'O Lord distribute bullets as you do the pay, let the officers get most of them.' Signed citizen Jenkins."

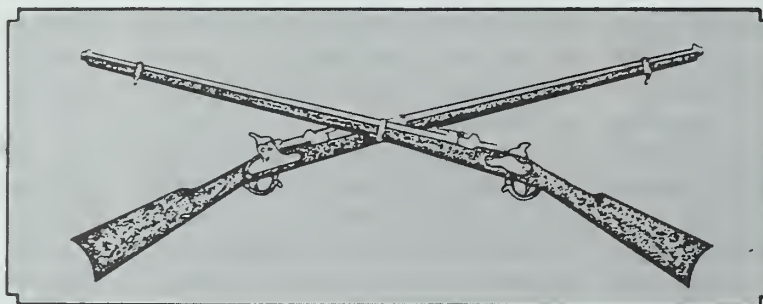
The chaplains were crucial to morale.

I used them with our front line troops. I was criticized by a senior chaplain for exposing our battalion chaplain too often to combat. My answer was: He is where the men need him, where there are wounded and dying, and not back in the chapel in the rear where none of the soldiers who really need him can get to him. I went so far as to close the chapel to encourage the chaplain to spend most of his time walking with troops in difficult areas.

Finally, it didn't take us long to realize that our Congressmen back home were very interested in what we were doing in Vietnam. Many soldiers corresponded with their legislators. The rule in our unit was that we had to answer congressional mail within 24 hours after it was received, even when we were in combat. The usual query concerned such things as why wasn't a particular soldier getting a shower, or getting his mail on time?

My answer would always be the same: "Dear Congressman So-and-so. We very much appreciate the interest you have taken in our soldiers fighting for the security of the United States in Vietnam. We don't resupply our soldiers daily out in the field for fear that the helicopters will give away their positions. The same holds true to providing troops showers when they are out on patrol for five or more days. Rest assured that the commanders of our soldiers have their best interest at heart. Thank you for your interest. Respectfully yours."

Major General Bernard Loeffke is chairman of the Inter-American Defense Board in Washington, D.C. He previously served as XVIII Airborne Corps chief of staff; as commander, U.S. Army South; and as commander of a joint task force in Panama.





Captain James E. Smith

When the 197th Infantry Brigade was notified on 11 August 1990 that it was going to deploy to Southwest Asia (SWA), I had been the brigade chemical officer for two months. Although I had commanded a company and had deployed to the National Training Center twice as a commander, this deployment was the real thing. The actions of the brigade chemical section could mean the difference

between survival and death for the brigade's soldiers on a chemical battlefield.

I would like to share with my fellow chemical officers, and with commanders as well, some of the lessons we learned during the predeployment and deployment phases, during the initial operations in the face of a possible chemical threat, and during sustainment training for chemical warfare.

Predeployment and Deployment

The predeployment and deployment phases were both exciting and challenging; this was not the time to make mistakes. The most important mission was to make sure each soldier left Fort Benning, Georgia, with all his required NBC (nuclear, biological, chemical) gear. This would help calm the soldiers' fears about their NBC equipment and the prospects of chemical warfare. The effort required persistence, hard work, and the support of the brigade commander.

One of my first actions after becoming the chemical officer had been to contact the assistant chief of the Supply and Services Branch, Directorate of Logistics, at Fort Benning for help in locating the brigade's stockage of overgarments, booties, gloves, and decontamination kits. Although I was assured everything was on hand, I was not satisfied and continued my coordination with the post representatives. This coordination paid off after we were alerted.

We learned several lessons in that process:

NBC gear and supplies must be on post. The brigade's CPOGs (chemical protective overgarments), booties, gloves, and other supplies simply were not available for issue. A brigade chemical officer must have a chemical defense warehouse under his control. The local post was not initially prepared to handle supplying a separate brigade for deployment. This was not only a post problem; it was an Army problem. The 20 years of neglect in NBC defense was apparent.

Soldiers must have protective masks in the right sizes. Despite our earlier quarterly fittings and CS chamber exercises, the soldiers now decided their protective masks did not fit. They had become more serious about the fit of their masks and now brought up size problems instead of hiding them. Their motivation was evident.

Soldiers must have the proper type of masks. Before the alert, the brigade was short of M17 masks, and M25 protective masks were issued instead. Once M17 masks became available, albeit slowly, we used good M25 masks to replace any unserviceable M25 masks.

Unserviceable masks must be coded and turned in. We ended up with more than the normal number of unserviceable masks on hand. The brigade was in the process of turning these masks in and had identified mask maintenance as a priority. Because the new masks were slow in coming in, however, we kept the unserviceable masks for the soldiers to use in training.

A brigade chemical officer must become an expert in

NBC logistics. The brigade commander looked to me to make sure all of the needed NBC gear, supplies, and equipment were issued before the brigade deployed to Fort Stewart, Georgia, for additional training before going on to SWA. Since there was not time for the normal supply procedures to work, the brigade chemical section circumvented the supply system and issued the NBC items to the units directly from a post warehouse. It was at this point that our earlier coordination with the post logistics people paid big dividends.

A working relationship with post representatives who control NBC supplies is essential. It did take a few days to develop such a relationship, but once they learned my purpose they were very responsive and helpful. A representative from the brigade materiel management center helped establish accountability for these supplies.

Supplies in CDE (chemical defense equipment) warehouses must be rotated. The rotation of supplies will help eliminate outdated NBC supplies and prevent having to requisition additional amounts at a time when they are in short supply. This problem would not have surfaced if the brigade had had the responsibility for the storage and upkeep of its NBC supplies in its own warehouse.

Units that are short of chemical officers and noncommissioned officers need help. The brigade chemical section helped the units with personnel shortages as best we could, but these shortages, unfortunately, did account for some misunderstandings, especially when the NBC supplies were issued. Unit supply personnel, for example, did not know what quantities to pick up or to whom they should be issued.

Neither of the brigade's infantry battalions had a chemical officer. Although the brigade had enough chemical officers assigned, several of them were women who could not be assigned to those battalions. The assignment of chemical officers in general and the policies on the assignment of female chemical officers need to be reevaluated.

A brigade should have back-up Unit Status Report (USR) officers other than the chemical officers. All of the chemical officers in our brigade were USR officers. As a result, all of them were out of the net during a critical time in the predeployment period. In peacetime, it may be all right to have chemical officers do USR, but in preparing for combat in a chemical environment, chemical officers cannot afford to spend two or three days on USR reports.

Training equipment should be included on all deployments. Because of a lack of space and because of the rapid deployment of vehicles and containers (MILVANs), NBC training items were not deployed to Fort Stewart between 15 and 17 August 1990. As a result, the brigade did not have enough NBC training equipment when it reached Saudi Arabia. On such future deployments, space should be dedicated to all kinds of training items, not just NBC items.

The chemical officer of a separate brigade should be a major. A separate brigade consists of five battalions and three separate companies, and the chemical officer performs the functions of both a division and a brigade chemical officer. An officer in the rank of major is authorized, and



the Chemical Branch assignment officers should support this authorization. Although all tasks were accomplished in preparing the brigade for deployment, a major probably would have eased the coordination with the post staff and with the battalion S-3s and executive officers.

A driver should be assigned to the chemical section. The brigade chemical section is not authorized a driver by TOE (tables of organization and equipment). Although this is acceptable in peacetime, during deployment we found that extra soldiers were rare. As a result, an NBC NCO who was needed to help issue NBC supplies had to act as the section's driver. This meant he was also involved in preparing the vehicle for both deployment and convoy operations.

Although the predeployment and deployment phases were fast-paced, we took several initiatives during this time that would later pay big dividends:

First, M17 lightweight decontaminating systems (called SANATORS) were requisitioned directly from the Chemical School—two per battalion, one per separate company, and three for the brigade's organic decontamination platoon. This allowed the brigade to concentrate on both hasty and deliberate decontamination operations in Saudi Arabia.

Commercial portable patient decontamination systems (HOT DOGS) were requisitioned through the Fort Benning Directorate of Logistics for use in decontaminating chemical casualties. These were issued to the medical company and the battalion aid stations.

To meet the brigade commander's guidance for each soldier to have all his required NBC gear and supplies before deployment, we found it necessary to use a top-down distribution of NBC supplies. Although this worked in

getting the brigade deployed, it did cause some problems later on when we tried to get the units to requisition NBC supplies through the supply system. Additionally, we bulk-ordered NBC supplies for the brigade, but most of them arrived only after we were in Saudi Arabia.

We created a brigade CDE warehouse to store the extra NBC supplies we obtained during the last days of our deployment. This later allowed the brigade to replace its unserviceable masks and to supply its units in SWA without having to wait for the items to arrive from the United States. In fact, the brigade started helping the division we were attached to. Additionally, the brigade began receiving, directly from Fort Benning, the NBC supplies that were bulk-ordered earlier.

Even after the brigade was attached to the 24th Infantry Division and moved to Fort Stewart, the brigade chemical section was divided between the two posts. I stayed at Fort Benning to continue working with the post staff in obtaining additional NBC supplies while the section's two NCOs deployed to Fort Stewart to help the units conduct additional NBC training and fill critical NBC shortages for incoming personnel. In fact, one of them remained at Fort Stewart until the last flight to Saudi Arabia to make sure new personnel had all their required NBC gear.

Initial Operations

Among the first words we heard when we arrived at the port of Damman were those of the deputy brigade commander: "Gentlemen, you are in SCUD-B range. You

will have your protective mask and weapon at your side at all times.”

After five hours of in-processing (following an 18-hour flight from Georgia), the brigade settled into its first temporary housing area, a warehouse at the port. The 24th Division's main command post (CP) was set up two warehouses down the pier. Two days later, the brigade moved to a tent city along the Persian Gulf where it would remain for two weeks. The soldiers became somewhat acclimatized while downloading equipment at the port.

The lessons learned during this time (31 August 1990 to 1 October 1990) are highlighted as follows:

Coordination with the higher headquarters staff must begin immediately. Developing a working relationship with the division chemical officer was essential, along with learning his expectations and requirements. Because the division chemical section was tasked to handle all NBC logistical matters, I found myself again heavily involved in NBC logistics. I found that visiting the people in the division chemical section each day was one way to maintain an effective relationship with them.

Reconnaissance must be conducted. During the early days in SWA, riding with the brigade S-3 was the best way for me to reconnoiter the brigade's sector. Although the heat was almost unbearable during these trips, the effort paid big dividends later on.

The battalion chemical officers must be fully briefed. Briefing battalion chemical officers on the chemical threat as soon as they arrived in country and getting them on line with what the division needed was important. I visited with these officers daily in tent city. Although the distance to walk was not far, the heat and humidity quickly sapped my strength. Because of the heat, activities were kept to a minimum from 1300 to 1500 hours, and work was done either early in the morning or late in the afternoon or early evening. Meetings were conducted about twice a week with the chemical officers.

The chemical section must understand shower operations. The brigade chemical section was tasked to ensure that the shower point at tent city stayed operational. Even though the shower point was operated by the division, the brigade chemical NCOs helped solve problems that arose and provided liaison between the division and the brigade.

On 10 September, the main brigade CP moved to a field site in northern Saudi Arabia and immediately set up for operations. Because some of the headquarters company equipment was still on ships, the brigade chemical section set up in a small tent until the ARFAB (Airborne) tent we usually operated out of was available. (The engineer and communication sections also operated out of this tent.)

Even though both chemical section NCOs were still at the port awaiting vehicles and equipment, we had to disseminate chemical downwind messages (CDMs) 24 hours a day. The lessons learned and the actions that required attention during these early days in the field included the following:

A chemical annex must be prepared. The units needed

information on chemical agent characteristics, Iraqi artillery weapon systems and ranges, and the agents fired with each system. Little was known about how long chemical agents would last in the desert, so we tested motor oil and water to see how long they would last. Until we had more information, this would serve as a guide. We completed an Iraqi chemical capability booklet, a project we had started at the port. It included information from every battle in which chemical agents had been used during the Iran-Iraq war.

Reconnaissance is important. We conducted numerous reconnaissance missions with the assistant engineer officer to identify road networks, water points, and potential decontamination points. This made our later decontamination planning easier.

Units should deploy with field expedient weather measuring devices. Weather data from division did not apply to our location, and we had to prepare CDMs with field expedient weather devices. Great distances separated the brigade from the division, and we were affected by the Gulf while the rest of the division was not. Fortunately, a separate brigade has an Air Force weather section, and this weather data was useful in preparing CDMs.

The decontamination platoon should be positioned close to the brigade main CP. Before the deployment, the decontamination platoon had always deployed with the support battalion, but this was not acceptable. Accordingly, the brigade S-3 positioned the platoon in an assembly area close to the brigade main CP, and this facilitated coordination with the decontamination platoon leader, who received his taskings from the brigade S-3.

After some initial hesitation in setting up in a separate assembly area, the leaders of the decontamination platoon soon realized the benefits of this arrangement. My earlier command experience had taught me that positioning a platoon in its own assembly area helped develop leadership skills in the platoon chain of command. Once combat operations were imminent, however, we planned to place the platoon under the operational control of the support battalion and it would deploy with the logistics release point (LRP) as a “decon package” consisting of the decontamination platoon, the water truck, and supply trucks carrying DS2 (a decontaminating solution), STB (a supertropical bleach), M258A2 decontaminating kits, CPOGs, gloves, boots, kevlar covers, and other NBC supplies. The decontamination platoon leader would maintain communication with the brigade on the operations and intelligence net. If a deliberate decontamination operation was needed, the decon package would be deployed to the appropriate site. A representative from the brigade chemical section would help coordinate among the decontamination platoon, the contaminated unit, and the support battalion in getting additional supplies.

An assistant brigade chemical officer is needed. Although the brigade was authorized an assistant chemical officer, one was not available. During an operations order brief in September, the brigade commander decided to bring one of the two chemical officers in the support battalion up



to the brigade main CP. This enabled one officer to go with the decon package to ease resupply actions and make sure communication was maintained between the decontamination platoon and the brigade main CP.

The brigade chemical section's responsibilities should be clear. With the addition of an assistant, the section's responsibilities were redefined. The assistant became the logistics expert, a function I gladly surrendered.

The section's NCO in charge was also the tactical command post (TAC CP) operations sergeant major, in charge of evaluating NBC training and providing technical assistance. (The brigade has a TAC CP that was operated separately from the main CP.) My computer plotter, therefore, became the NCOIC of the chemical section-TOC, and also the driver.

As the brigade chemical officer, I attended all meetings, operations orders, and planning sessions and prepared operations orders and chemical annexes, participated in all staff battle exercises, and conducted briefings. During the daily 1830 section meeting, we exchanged information to keep each other abreast of actions pending and completed. This also helped keep the members of the section working together, despite the fact that we were all going in different directions.

Resupply operations need to be spelled out. The brigade deployed with only one CPOG ensemble per soldier, but a second set was needed. Additionally, storing and hauling this second set and other NBC supplies had to be considered. During a combat service support staff battle exercise, each unit dedicated sufficient haul capability for their SANATORS and NBC gear. It was decided that when the second sets arrived they would be stored in a trains area—either

company, combat, or field. Although haul capability was short, the battalion commanders realized the importance of transporting these items.

Decontamination sites must be selected and reconnoitered. Again, prior reconnaissance helped in the selection of sites that supported the tactical plan. Units were issued the grid coordinates for decontamination link-up points that were spotted within one or two kilometers of the actual decontamination site to ensure that the contaminated unit linked up with the decontamination platoon leader before entering the site.

Deliberate and hasty decontamination rehearsals must be conducted. Each company in the brigade was required to conduct deliberate decontamination rehearsals with the decontamination platoon. Each company conducted detailed troop decontamination training before these rehearsals, met the decontamination platoon leader and sergeant, and conducted a walk-through of the operation. The units also conducted detailed troop decontamination training afterwards. Deliberate decontamination rehearsals were evaluated by the brigade chemical section. The units that sent a chemical officer or NCO to the walk-through and rehearsals experienced fewer problems than the units that did not.

Each unit conducted hasty decontamination rehearsals with its organic SANATORS. The brigade deployed with its authorized SANATORS, which allowed hasty decontamination without using the brigade's decontamination platoon. This also allowed the brigade to concentrate on both deliberate and hasty decontamination operations during the same time period. The brigade's decontamination platoon was dedicated to conducting deliberate decontamination

missions while the units used SANATORs to conduct hasty decontamination.

Units also used the engine exhaust from M1 Abrams tanks for field expedient hasty decontamination. In this method, either two or four tanks are positioned facing away from each other with the grill doors open at the rear, and a contaminated vehicle is driven between them. Using heat from the tanks' engines is more practical in the desert than using water-based decontamination equipment, and the M1 is definitely more mobile than five-ton trucks.

A brigade NBC warehouse is needed. Additional NBC supplies were stored at the Class II yard. Loading all the extra NBC supplies from the three containers brought from Fort Benning was crucial. The inventories conducted earlier had to be confirmed and the equipment issued. Soldiers needed additional masks, hoods, gloves, booties, and other NBC supplies. Again the brigade chemical section was deeply involved in NBC logistics, and it took a while to get the units to use normal supply procedures.

If a training CPOG is not available, a training chemical suit should be designated. Since the brigade, as well as the division, had only one CPOG per soldier, a training suit was needed. After experimenting with wet weather gear, desert combat uniforms, desert night parkas, and other gear, we chose the desert night parka to simulate the CPOG. Its design was similar to the CPOG. Work gloves were used instead of chemical gloves, and wet weather boots or field boots instead of chemical booties.

Equipment is needed for detecting mustard gas before an attack. The M8A1 chemical agent alarm detects only nerve agents while the M256 chemical detection kit works only after an attack. Fortunately, mustard gas does have a distinctive odor similar to garlic.

Procedures for chemical casualty evacuation and decontamination and for graves registration must be developed before deployment. The present doctrinal procedures either were not applicable or were not detailed enough for desert operations. Fortunately, Chemical Casualty Management Course classes were conducted in country, and the assistant chemical officer as well as the medical personnel in the brigade attended. Detailed procedures were published later in the operation.

This time period provided a tremendous learning experience. Brainstorming and flexibility were crucial. We experimented with procedures and modified them as necessary, and we stood ready to meet the chemical threat.

Sustainment Training

When the brigade realized that war was not imminent, its focus shifted toward sustainment operations. The emphasis was on training for war, and this included NBC-related combat tasks. The following are the lessons learned and actions taken during this period (1 October 1990 to 31 December 1990):

An NBC training program must be developed. Key

components of our NBC program included the following:

- Acclimatize soldiers to MOPP (mission oriented protective posture).
- Go into MOPP IV.
- Conduct deliberate and hasty decontamination rehearsals.
- Emplace and operate M8A1 alarms each week.
- Conduct chemical casualty/decontamination exercises.
- Conduct daily masking drills.
- Conduct weekly NBC control party exercises.

This program was included in the brigade's command training guidance.

The soldiers must train with chemical protective overgarments. Once the second set of chemical protective overgarments came in, the first was designated as both a training and a "go to war" set. The soldiers were to train with the overgarment, dry it out, and store it in a protective bag. Assuring the soldiers that their overgarments would work on a chemical battlefield would eventually become a morale issue. Later, the brigade received messages that validated the decision to use this first set as an operational set. As a result, the brigade opened the new battle dress overgarment (BDO) instead of the older green CPOGs that had been brought during deployment. If the first set had been designated for training, the CPOG would have been opened first and the longer-lasting BDO saved for combat. Wet weather boots and chemical gloves were also opened and used.

Rehearsals must concentrate on both detailed troop decontamination (DTD) and MOPP gear exchange. Detailed troop decontamination and MOPP gear exchange were identified as weaknesses during the company decontamination rehearsals that were held during this period. The control of soldiers and the transfer of contaminated and uncontaminated drivers during deliberate decontamination missions also needs to be addressed. Either the battalion chemical officer or NCO must be at the site to help control the DTD and the flow of personnel.

Non-water-based decon systems must be developed. Because of the lack of water sources and of mobility with the five-ton trucks, a decontamination system that does not require water needs to be developed. One example is the M1 tanks' engine exhaust that we used, and the M1 did provide better mobility and more flexibility for conducting hasty and deliberate decontamination.

NBC control party exercises should be conducted. The company level control parties needed practice, and exercises were conducted weekly on Thursdays from 1000 to 1200. The units could block out this time to train company and battalion level NBC personnel. One of my NCOs initiated the NBC Warning and Reporting System at a selected company and monitored actions at both company and battalion level. Battalion NBC reports forwarded to the brigade were sent to the division chemical section. This was also the time period in which the headquarters company operated in MOPP gear.

NBC training must be checked. All NBC training was

compiled from the master training schedule into an NBC training schedule, and this training was checked to ensure that it was being conducted to standard. Hasty decontamination, deliberate decontamination, and chemical casualty/decontamination exercises were prime training highlights.

NBC training equipment must be ordered. If NBC training equipment is not included during the deployment phase, it should be requisitioned as soon as the unit arrives. Once sustainment operations began, this training equipment was essential in conducting realistic NBC training.

Visits to chemical officers and NCOs are helpful. My goal was to visit chemical personnel at their locations once a week, or to have my representative visit. Of course, this depended on the availability of the section vehicle, but we were usually able to do it.

Periodic chemical officer/NCO meetings should be conducted. These meetings were conducted monthly at the brigade main CP. Along with the visits, they allowed for an exchange of information and ideas between chemical personnel within the brigade.

A decentralized style of leadership works best. A centralized style of leadership does not work when dealing with battalion chemical officers and NCOs, because they work for the battalion S-3 and not for the brigade chemical officer. The latter, therefore, must share information, coach, and then teach, where appropriate, without becoming dictatorial.

The soldiers must maintain their NBC equipment. The desert sand and extreme heat in Saudi Arabia are rough on equipment. Squad leaders must make sure the soldiers perform maintenance on their equipment. Officers should also be checked to ensure that they perform maintenance on their own equipment.

M8A1 alarms and batteries need to be protected. An M8A1 alarm must be protected from the sand and heat while it is being emplaced. Shade can protect it or it can be emplaced in deep sand. It should be used mainly at night. There is really no need to operate it during the daytime. The batteries must be protected from the heat; high temperatures will dissipate their energy quickly and reduce their life.

NBC scenarios can be integrated into other training exercises. The brigade conducted numerous command post exercises of our general defense plan, staff battle exercises, and staff planning exercises. Realistic NBC scenarios can be integrated into such exercises. One of the chemical officer's hardest tasks is to make sure he is an integral part of the staff. He can do this by being proactive.

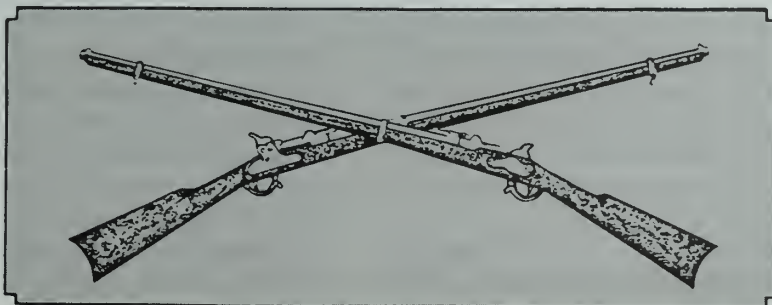
Real-world crises or incidents can be used as training events. Periodically, certain incidents would increase the apprehension level within the brigade. The chemical officer must not overreact to situations and put soldiers in MOPP IV without good reason. These incidents, however, can be used as training events to gauge the units' state of training. An incident on the morning of 2 December 1990 is an excellent example. Iraq fired three SCUD missiles toward Israel. By mid-morning, alerted that Iraq had launched SCUD missiles, the brigade immediately upgraded its alert level. Then the direction of fire was reported as being toward the west. Although the brigade did not go into MOPP IV, all MOPP gear was available. Although the situation was tense and looked serious, the brigade staff did not overreact during this incident. Some allied forces on our flank, however, did put their units into MOPP IV.

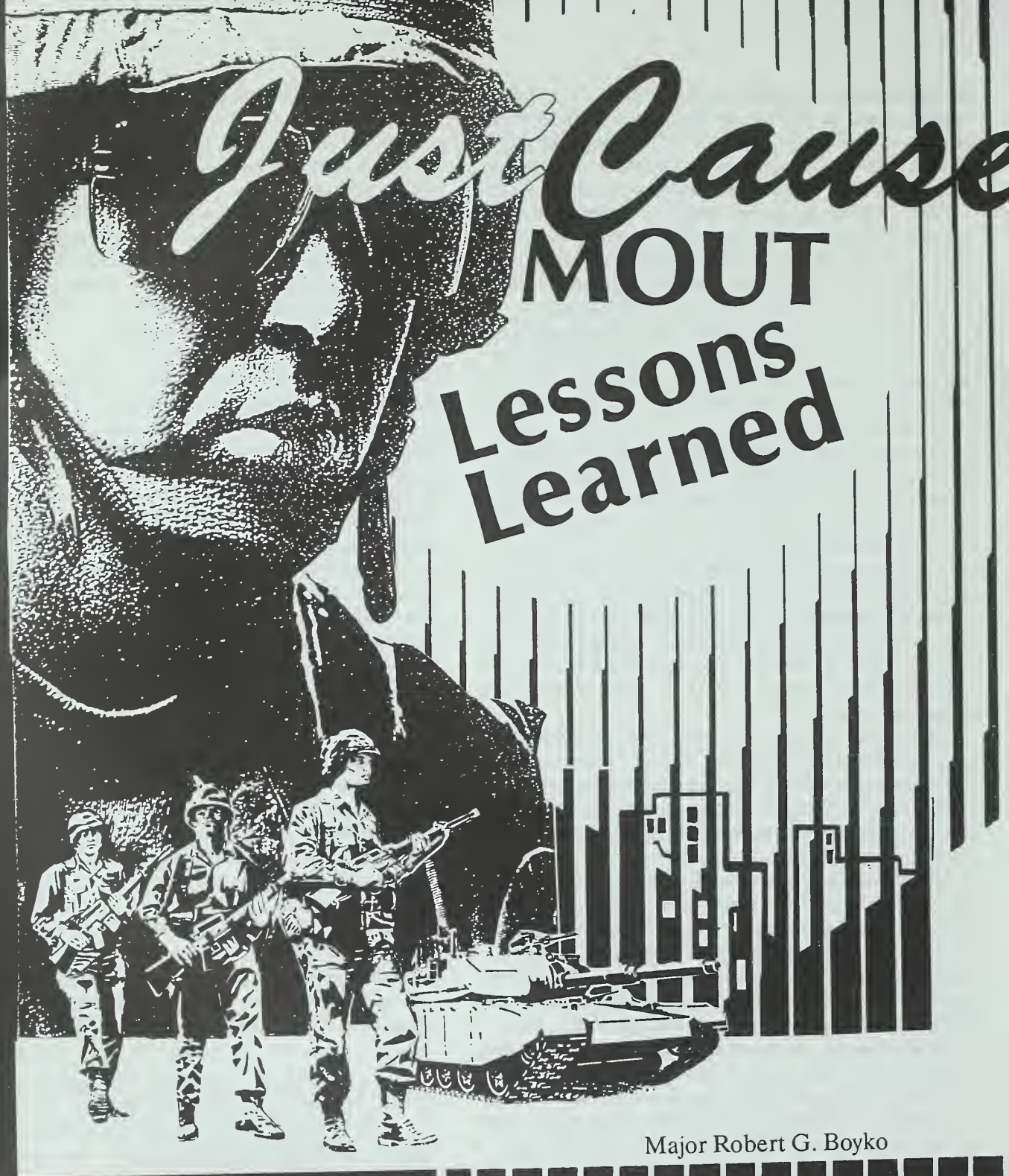
In another incident when M8A1 alarms were activated at 0300 hours, one unit went into MOPP IV just as its soldiers had been trained to do. It turned out that these alarms were from an adjacent unit conducting an NBC exercise in preparation for a deliberate decontamination rehearsal. Although the incident was regarded as funny afterwards, when in doubt it is always better to mask first and ask questions later.

The fears of the soldiers should be calmed. Many soldiers and leaders as well tended to overestimate the chemical threat. The Iraqis knew this and, I believe, tried to heighten these fears. A chemical officer should not get caught up in this but should realistically analyze all reports, especially unconfirmed ones and open-source news reports. Examples included over-emphasizing the danger of hydrogen sulfide gas, Iraq's nuclear capability, and fuel explosive weapons. We need to have a healthy respect for chemical weapons but also need to realize that they cannot contaminate the whole battlefield.

The uncertainty of this period brought about realistic and combat focused training, particularly in NBC. The soldiers realized the threat—some maybe for the first time—and trained as if their lives depended on it. As a result, the brigade stood ready to meet the challenges ahead.

Captain James E. Smith, before becoming brigade chemical officer for the 197th Infantry Brigade, was an NBC instructor at the U.S. Army Infantry School. He also served as a company commander and a division artillery chemical officer in the 5th Infantry Division and as a decontamination platoon leader and a brigade chemical officer in the 2d Armored Division.





Major Robert G. Boyko

In the early days of Operation JUST CAUSE in Panama (December 1989), my battalion deployed from Fort Ord, California, into the Curuncu section of Panama City. Our mission was to secure the area from pro-Noriega forces and to restore law and order—a mission for which none of us had ever trained.

I am not convinced that our current MOUT (military operations on urban terrain) training is preparing us for

the kind of city fighting we may do in the future. The training I had received both in a unit and later at the Command and General Staff College at Fort Leavenworth focused on a Stalingrad-type of city fight. But Stalingrad, by the time the Germans and the Russians began their epic battle there, was essentially deserted. It was a fight to the finish with no civilians, no rules of engagement (ROEs), and no restrictions on the use of massed firepower.

Our recent history has shown that what we are more likely to face in a city environment are small enemy units or individuals mixed in with a large civilian population. It is a situation that calls for strict rules of engagement and a selective use of firepower to keep collateral damage to a minimum. This was the case in the Dominican Republic in 1965, in Detroit in 1969, and in Panama City in 1989. The Battle of Hue during the Tet offensive of 1968 was more violent but it still required the surgical use of firepower.

I have every reason to believe that city fighting in the future will resemble that in Panama more than that in Stalingrad. For this reason, I would like to share some MOUT lessons my battalion learned as a result of its experiences during Operation JUST CAUSE.

Unfortunately, my battalion did not know it was to be committed to fighting in Panama City until I, as S-3, received the regimental operations order (OPORD) after we arrived in Panama. Then, when the battalion commander's aircraft had problems and was delayed in arriving, I had to begin developing a plan for accomplishing our mission. My mind swirled with all the MOUT training I had had about securing a foothold and clearing from house to house.

My brigade S-3 probably saved the lives of a lot of Panamanian and some U.S. soldiers as well by telling me about the 193d Infantry Brigade's success in another sector the day before: It had encircled the brigade's area of operations, had actively patrolled, and had used the intelligence gained from patrolling and from civilians in the area to identify possible enemy positions.

We tried that technique, and it became our method of operation throughout JUST CAUSE. Whenever we entered a new area of operations (AO), we tried to cordon the area off, show a strong presence, patrol aggressively, and use the intelligence we gained to target specific buildings or groups of buildings for search and clear operations.

We soon realized that we represented the first disciplined force in a city where there had been no order and control. The professional appearance of our soldiers probably kept many soldiers of the Panamanian Defense Force (PDF) from resisting further. I am sure it convinced many looters that their brief holiday was over. Beyond appearance, though, we tried to demonstrate a powerful military presence on all our operations through the use of tanks, aircraft, and our HMMWV (high mobility multipurpose wheeled vehicle) gun vehicles.

Our immediate goal was to take the night away from the enemy, because that was when we received the most fire. The U.S. Army's night vision devices are the best in the world, and we used them extensively. We also sent our sniper teams out every night. We set up ambushes and traffic control points and ran numerous dismounted patrols. These actions disrupted enemy movements, reduced looting, seized curfew violators, and convinced the population that order had been restored. The extensive patrolling not only developed the situation, it also familiarized our soldiers with their AO and demonstrated a strong U.S. presence to the civilians in the city.

We learned that patrolling in this environment had to be tightly controlled, because the danger of misorientation and fratricide was great.

Patrolling in a city must begin with good maps of the area; we were fortunate enough to get city maps of 1:7,500 scale that showed all the streets and large individual buildings. Sometimes even this detail was not enough. In these cases, the leaders made their own individual sketch maps, usually out of cardboard from cases of MREs (meals, ready to eat).

Each patrol followed a preplanned route, and patrol leaders were not allowed to deviate from their route without battalion headquarters approval. Each patrol was also recorded in the battalion tactical operations center (TOC). Each had to have communications with its parent unit or else abort its mission and return to its assembly area. Patrols were rehearsed, rally points were designated, and all the other actions normally associated with patrolling were taken. In addition, a detailed briefing of the current ROEs was conducted before every patrol. Although a patrol could and did fire on targets of opportunity or in self-defense, it was not allowed to pursue the enemy out of its own sector. The battalion TOC either passed the battle against fleeing enemy troops from unit to unit, or committed the mobile battalion reserve. Finally, a detailed debriefing of each patrol was conducted.

MOVEMENT CHanneled

Movement in a city is channeled. Therefore, we always tried to take the safest route and, more important, had an overwatch element on all moves. Before any operation, we rehearsed movement to contact and actions on contact. We found that it was often faster to move on foot in reacting to a threat or an opportunity than to mount our vehicles and move through the rubble that littered the streets.

We did keep a mounted reserve at battalion that consisted of the antitank platoon and a mortar section under the command of the antitank platoon leader. It was committed on several occasions to pursue or attack targets of opportunity. Our HMMWV drivers became adept at driving through city streets.

While some movements were faster by foot, the vehicles still gave us greater flexibility and logistical support. I was glad that 16 of our battalion's 35 HMMWVs were included in the airlift to Panama. The vehicles were used extensively, and every one of them played an important role. Fortunately, good preventive maintenance and a sharp motor sergeant kept them running. We sandbagged the key area of each vehicle to protect its occupants. We requested more vehicles for long moves and when they were not available borrowed civilian vehicles or, in one case, used a captured truck. We learned that scarce transportation assets have to be tightly controlled and that any movement must be extensively planned.

Controlling a force in a city is different from controlling

it in its usual training areas. City fighting is truly a platoon and squad leaders' fight. Sectors are tens of meters wide instead of hundreds of meters, and tall buildings add a vertical dimension to the battlefield.

We assigned sectors, boundaries, target reference points, and rally points. The key was for every squad member to know where the squad leader was and where the platoon command post was. We also required contact points between platoons.

We stressed the offense in Panama because we had the enemy on the run and because the faster we won the battle the faster we could go home. Still, some combat forces were assigned to guard "critical sites." The order to defend a television station, for example, forced us to commit a company (minus) to the mission. We tried to defend forward and placed obstacles in the streets to slow what the S-2 had correctly estimated would be our primary threats—car bombings and drive-by shootings. Our light engineers were experts in the use of local materials for obstacles, and our light infantry soldiers provided the labor.

It is important to realize that, regardless of the scenario, light infantry will always have to defend at some point, even if it is just local security. In a MOUT defense, each soldier must be careful to avoid becoming an obvious target. We constantly stressed security. We varied our position, changed guards at random hours, and passed patrols through from different points—everything we could think of to avoid becoming predictable. Since we did not believe the enemy was strong enough to retake lost territory, our goal in the defense was to reduce the number of targets of opportunity we presented to the enemy.

DEFENSIVE MISSION

Luckily, we were given only one defensive mission, and our primary focus was offensive. We conducted search operation missions to find enemy soldiers, weapons, and key PDF personnel. When our forces were in the area, and intelligence turned up leads, we would mount our search operations. We would cordon off the area we wanted to search, usually with a force of company size. Our search force would be the battalion scout platoon, an engineer platoon, and usually one additional infantry platoon. This force was commanded by one of our company commanders.

Our first attempts at sealing off an area would have been comical if this had not been a deadly serious business. Fortunately, though, we soon realized that we were trying to cover too much area. When we narrowed our focus by isolating individual buildings, we were more successful. A ten-story apartment complex, which we often found in Panama City, is quite an objective for a two-company force. But it can be cleared if the force has six hours, if the encircling force can seal the area, and if the searching force is well organized and trained for clearing buildings.

We always began our offensive sweeps with a display of powerful force. The venerable Sheridan tanks of the 82d

Airborne Division that accompanied us had a tremendous psychological effect. When the tank platoon was detached from us, we used artillery in a direct fire role instead. Attack and reconnaissance helicopters flew overhead during all of our missions. As it turned out, we never had to fire either the tanks' main guns or the artillery, but I am sure their presence discouraged many a PDF soldier from resisting.

Since my battalion was not proficient in roof-top air assaults at the time (we now plan to work on it), we would enter a building from the bottom floor and move with security up to the roof. At the top we would reestablish communications and use snipers to watch the surrounding buildings. A favorite PDF tactic was to snipe at the security force from buildings just outside the search area.

Before starting to clear individual rooms, we used powerful HMMWV-mounted loudspeakers to explain what we were going to do and to ask civilians for their cooperation. The search began with the soldiers knocking on each unopened door. Doors that remained locked were opened with crowbars or, in a couple of cases, with C-4 explosives planted by the engineers. An explosion inside a building makes such a noise that it didn't take many before some of the residents found keys to open all the other doors.

ROOM SEARCH

Individual rooms were searched carefully and thoroughly. A cursory search of a room or building is worse than none at all. The PDF and local criminals could hide weapons in the most ingenious places. We found a big cache of AK-47 rifles suspended by ropes in an unused elevator shaft. On another occasion, we found grenades and a launcher under a pile of garbage in a building's courtyard.

After a while we were usually able to corner any PDF soldiers who were in the building. In the face of overwhelming odds, they invariably surrendered. I am sure that on several occasions some escaped by blending in with the civilian population, but we did find their weapons.

At least two soldiers and the room's occupants were present for the searches. This was to make sure the Panamanian people could see that we did not intend to destroy their rooms or steal any of their belongings. We then marked each room we cleared and posted security in each hallway. (Clearing buildings requires a lot of people.)

Our presence in Panama City in general, and our search operations in particular, brought us in close contact with a large civilian population. Most of the people in our AO were, if not pro-American, at least neutral. It was therefore imperative that we keep civilian casualties and damage to civilian property to a minimum. This is why rules of engagement are so important.

In any conflict, there will be ROEs, and every soldier must know them, although the rules may change often depending on political realities. By our last two weeks in Panama, they changed almost daily, and we continuously stressed the current rules. The fastest way to get into trouble

(except for fratricide) was to violate one of them.

Quite frankly, before we fired on anyone we first made sure that he was an enemy and that he would not surrender. Furthermore, we were very careful in using our firepower.

Every soldier needs to know that in a city he can make a positive or negative contribution to his unit's overall success by the way he treats civilians. I am convinced that we saved many Panamanian lives and probably a few of our own soldiers' lives by adhering to strict rules.

SUPPORT UNITS

An infantry battalion relies heavily on support from many other combat support and combat service support arms. During Operation JUST CAUSE, we learned several valuable lessons on the employment of these elements in a MOUT environment:

Indirect fire is severely limited in the city, both in getting permission to use it at all and in using it effectively. We were not allowed to use indirect fire in Panama City because of the risk of civilian casualties and the danger of fire. If the enemy had been dug in, I am sure we would have been given permission to use artillery, but probably only in its direct fire role. We did use direct fire artillery as an overwatch force, but it is slow to emplace. (If given a choice, I would take tanks over direct fire artillery every time.) The artillery, however, was valuable for its communications, and we used the artillery net as a backup to our own command net.

Although indirect fire is limited in a MOUT situation,

it is important to realize that a platoon's direct fire weapons are very effective. The M16 rifle is an excellent assault weapon, and the M203 grenade launcher is deadly in the hands of a well-trained gunner. As a result of our experience in JUST CAUSE, we have greatly increased the number of live fire training exercises we conduct.

I also came away from that operation thoroughly convinced that snipers under centralized control are a great force multiplier for light infantry. Properly employed snipers in Panama demoralized the PDF.

Air support was limited, not for a lack of aircraft but because of the rules of engagement. Helicopter gunships were great for overwatching our movements, though, and would have been able to deliver a lot of accurate fire if we had needed it.

We found aerial reconnaissance to be overrated in Panama City. The times we had the most success with it were when my S-3 air was in a helicopter relaying information directly over our command net. Quite frankly, the pilots did not seem to know what an infantry force needed.

As for tanks, I love them. They are an infantryman's friend in city fighting. They can go anywhere. They can deliver steel on target and they scare the enemy. I cannot say enough about the performance of the Sheridan tanks that supported us. (When is light infantry going to get some tanks of its own?) Of course, we had to provide infantry security for them and had to work hard on communications. One of the scariest moments for me in the entire operation was when I had to cross an area that had received sniper fire and climb onto a tank because I didn't have radio



communication with the tank commander.

During JUST CAUSE, our light engineers were worth their weight in gold. They breached obstacles, showed the infantrymen how to erect defensive obstacles, and used demolitions to open doors and shafts and go through walls. In the latter stages of the operation, our engineers were issued some heavy equipment and were switched to civic action projects.

I found that we had to break down the engineer units into smaller elements than we normally did in training. Doctrine calls for the engineers to be committed as a platoon, or no smaller than a squad, but in actual operations we often had to send a demolition team or even a single engineer to advise an infantry platoon on how to build obstacles.

Some military intelligence assets proved valuable. The prisoner interrogation team we received gave us good realtime intelligence. Interpreters are a must. We were lucky to have a soldier in the unit who had grown up in our sector of the city, and he immediately became the battalion commander's radiotelephone operator. REMBASS (remotely monitored battlefield sensor system), ground surveillance radar, and higher level intelligence assets did not support us well, but I believe the weakness was in our own failure to train with them habitually in peacetime.

Finally, our ticket home was the requirement to turn a secured sector over to the military police, who would then help the new Panamanian police forces maintain law and order. Needless to say, every leader and soldier in the battalion worked hard on a good handoff to the MPs.

In fact, we coordinated well with the MPs at every level, and I wish we had had their expertise earlier in the conflict. The nature of their job requires them to work with civilians

and in cities, and they could have taught us how to search buildings and individuals and what to look for. I recommend that, in any future MOUT operation, at least one MP advisor be attached to each infantry company.

After my battalion returned to Fort Ord, I breathed a sigh of relief that the enemy had been even less prepared for combat than we had been. As a result of our experiences, we now work harder on individual movement techniques and on squad and platoon drills.

We also stress marksmanship to a greater degree than before. As part of that training, we teach and reteach weapon clearing, function checks, and overall weapon safety. We throw grenades and use grenade assault training at every opportunity.

We work harder on soldier intelligence training, because our own soldiers in JUST CAUSE, by observing their AO and talking with civilians, provided us with most of the intelligence we received. Finally, all of our training exercises now have rules of engagement, and we check to make sure they are passed down to every soldier.

Our next experience with MOUT won't be precisely the same, of course. The enemy will probably be better; the fight will probably be tougher. But I believe the lessons we learned as a result of Operation JUST CAUSE have better prepared the battalion for its next city fight.

Major Robert G. Boyko was S-3 of the 1st Battalion, 9th Infantry, 7th Infantry Division, during Operation JUST CAUSE and is now the battalion's executive officer. He is a 1975 graduate of the United States Military Academy and has also served with the 25th Infantry Division.





81mm Mortars

The Forgotten Platoon

Captain Christopher A. Collins

The Joint Readiness Training Center (JRTC) at Fort Chaffee, Arkansas, is the equipment and doctrine training center for our light, airborne, and air assault task forces. At the Center, when maneuver units make contact with the opposing force (OPFOR), the engaged forces are usually no more than 100 to 300 meters apart because of the close

nature of the terrain, the tactics and techniques employed by both sides, and the effective range of weapons.

In these conditions, the 81mm mortar can offer many advantages to the maneuver units, with its responsiveness and its ability to deliver fires close to the units and beyond the effective range of any other infantry weapon systems.

Despite these advantages, the maneuver units rarely call for mortar fire support. Instead, they call for artillery fire or they try to close with and engage the OPFOR with small arms fire. Maneuver units are finding out, though, that without mortar and artillery support, in contacts with the OPFOR they usually suffer heavy casualties.

To prevent these losses, units training at the JRTC need to reemphasize the advantages of using their indirect fire assets, and especially their mortars, to damage their opponents. Mortar rounds can be adjusted onto a target relatively quickly and give the maneuver force commander an opportunity to gain control and dominate most small unit engagements. But this adjustment of fires can be helpful only if the maneuver unit properly coordinates its fire support plan, and if it employs the proper techniques for adjusting fires, establishing priority targets, and overseeing the needed shell fuze combinations.

Observations at the JRTC reflect that when mortars are used for fire missions, their fires are not properly adjusted onto the targets, and the mortar crews themselves take too long to place effective fires on the targets. Most of these problems can be traced back to the mortar platoon leader's planning and coordination, although the maneuver force commander and his staff are not completely blameless.

The following are several issues that mortar platoon leaders and infantry platoon leaders and commanders need to consider to improve their mortar fire support:

Integration with the Scheme of Maneuver. Too often, the mortar platoon leaders do not do a good job of coordinating with the S-3 and the fire support officer (FSO). In too many cases, the trend is for a mortar platoon leader to receive a firing position, a priority of fire, and a target list with little discussion concerning the integration of the target list with the mortar fire support he is expected to give in a close-in battle.

The battalion S-3 and FSO are responsible for developing a fire support plan that integrates the effects of fire support into the scheme of maneuver. But battalion schemes of maneuver tend to focus on movement to and occupation of an area rather than on how the battalion will fight the battle. Naturally, poor planning and coordination by the maneuver elements will lead to the poor execution of any fire support plan. To integrate the fire support assets, battalion staffs need to reconsider the effect fire support will have on the enemy.

The current procedure is to plan fire support in low intensity combat situations by selecting target reference points on key terrain instead of on suspected enemy locations. Units also tend to select priority targets on key terrain features in the centers of their areas of operation.

The problem with our current targeting procedure is that it is not linked to the scheme of maneuver. The units begin their movement into an area and do not call for fire support until after they have made contact. This leads to reactive and unproductive fire support, because firefights at 100 to 300 meters are generally over within the time it takes to adjust fires. Instead, a unit needs to plan its supporting

fires and the effects it wants on suspected enemy locations so as to support its scheme of maneuver.

Communication. The mortar platoon leader needs to coordinate with the forward observers and the FSOs for the exact frequency and call signs they will be using during each phase of the operation. He must not neglect any attached or supporting units that may not have forward observers, such as the antiarmor platoon, tank platoons, scouts, engineers, aviation, and combat trains.

Habitually, the mortars will monitor their own internal frequency and the battalion command net. The other units may monitor either their own internal nets, the coordinating or fire direction artillery nets, or the battalion command net. One of the reasons the mortars are easily forgotten or not called on for fire missions is that few units will preset their fire support radios on the mortar platoon frequency.

The most common radio net for the FOs to monitor is their internal company nets (to the 60mm mortars) and the coordinating fire net so they can obtain artillery fire support. The unit that has priority of fires from the 81mm mortars is usually the only one to monitor the mortar platoon frequency. As a result, when the units begin their movement the mortars may be able to reach only one company and the battalion FSO for radio checks and position updates.

The solution to these communication problems is for the maneuver units to conduct fire support communication exercises (COMEXs) and to preset their radio frequencies so they can reach the 81mm mortar platoon quickly. These COMEXs must involve more than putting all the fire support radios on a common frequency and calling for a radio check; these types of checks do no more than verify that the radios are serviceable. Instead, the players in a fire support COMEX need to switch their frequencies to ensure that they can raise the different fire support assets.

Fire Control Measures. Mortar platoons frequently deploy with blank maps in their fire direction centers, because the mortar platoon leaders are unfamiliar with the use of graphic control measures and also overly concerned about having their fire direction center (FDC) vehicles captured by the enemy. But the most frequently voiced rationale for not using graphics or situational reports on the FDC map is that the platoons do not use graphics at their home stations. At the very least, the FDC map needs to reflect the battalion boundaries and battalion graphics. Without these graphics, the mortar platoon FDC is unaware of the range requirements, clearances for fire, the need to update priority targets, and the like. Most important, though, a lack of graphics is one of the major factors in the high number of friendly casualties caused by mortar fire.

These graphics also need to include no fire areas (NFAs) and restrictive fire areas (RFAs). To reduce the potential for fratricide, the FDC should plot the locations of all stationary units and the appropriate NFA around each to make sure no rounds hit friendly positions. Some of these stationary units are military intelligence assets (ground surveillance radar and the like), communication sites, scouts, tactical operations centers, casualty collection points, and



other fire support assets such as U.S. Marine Corps fire coordination control teams and combat observation lasing teams. In addition, rear echelon units that are in range of the mortars need to be plotted.

Range of the Mortars. It is not always possible for mortars to have a 6400-mil capability out to their maximum range unless they are set up in an open field or an orchard with trees that do not mask or limit overhead clearance. Instead, for survivability and concealment, the mortars are frequently set up at the edge of a treeline. This positioning not only limits their 6400-mil capability but may also cause mask or overhead clearance problems that preclude firing into an area in support of a unit in contact.

To compensate for limitations in range and sectors of fire, the mortar platoon leader needs to identify alternate positions that are reasonably close to the primary positions so the platoon can provide fire support into all occupied or observed areas. But if the platoon leader does not coordinate with the battalion S-3, the FSO, and the maneuver units regarding the areas in which the units plan to operate, the mortars may be tasked for a fire mission they cannot fire. Range and coverage criteria, therefore, should be a major concern when the platoon leader selects his positions.

Also, the 81mm mortars are normally positioned so they can respond to the maneuver units' requests with their high explosive (HE) rounds. In low intensity combat, however, the mortar platoon leader also needs to consider placing his mortars so that they can respond to requests for illumination rounds, which have a limited maximum range. (The maximum range of HE is 4,595 meters while the range of illumination is only 2,950 meters.)

Movement Plans for Each Company. In movement to contact operations, the mortars need to monitor the units' progression and ensure that the mortars' sectors of fire are

coordinated with the company and platoon patrol plans.

Mortar platoon leaders rarely coordinate in detail with the S-3 or the company commanders so they can portray graphically the tentative routes of movement, target lists, time schedules, and communications. Usually, the mortar platoon leader is given only a target list and is expected to be able to provide continuous and timely fire support with little other guidance.

If the mortar platoon is to support a maneuver unit, the mortar platoon leader absolutely must be fully aware of the scheme of maneuver. Before the maneuver unit's mission begins, the mortar platoon leader needs to know the route or direction of attack, the time schedule, expected types and locations of enemy contact, and the commander's plan for using the effects of mortar fire support to fight the enemy.

Fire Effects. When a mortar platoon leader does coordinate for fire support, he usually receives a target list, a priority target, and a priority of fire. Rarely, though, is he given the commander's intent for fire support. For example, he is seldom informed as to the desired effects for his fires. Is he to destroy, neutralize, or suppress the enemy? How long are his fire missions expected to last? What are the anticipated requirements for smoke and illumination? What does the commander want the enemy to do as a result of the mortar fires?

To ensure that the maneuver units are properly supported, commanders need to articulate the desired effects of the mortar fires. If they do not, the mortar platoon leader must press for guidance on how the mortars will be integrated into the operation.

Displacement Plans for Mortars. Since the mortars are not normally assigned their own sector or area of operations, problems arise when the mortar platoon needs to displace or conduct resupply activities. Because of the general lack of coordination between the mortar platoon leader and the unit responsible for the AO or sector, mortar vehicles are frequently ambushed while passing through friendly units or destroyed by a friendly unit's mines.

Also, a unit's patrol plans, sectors of fire, and indirect fire targets frequently conflict with the mortar platoon's position. Poor coordination degenerates into uncoordinated vehicle movements and position conflicts.

Mortars have movement requirements that must be coordinated with the maneuver companies. The mortar platoon leader must coordinate with the companies on such matters as landing zones, casualty collection points, resupply routes, radio nets for convoys to monitor, anticipated times for movement, challenge and password, codewords, and crossing into or through another company's sector.

Control of Displacements. If mortars are being probed, attacked, or bracketed by enemy indirect fires, who has the authority to order the mortars to displace? Does the authority for the decision rest with the mortar platoon leader, the S-3, the FSO, or the maneuver commander who is responsible for the AO or sector the mortars are in? This frequently becomes a critical issue at the JRTC as the platoons attempt to displace under OPFOR pressure. Without prior coordination, the platoon can easily move from enemy

contacts into friendly unit firefights.

There is no proved solution to this problem, but the mortar platoon leader needs to receive guidance from his S-3 or commander that is consistent with the battalion's scheme of maneuver.

Techniques for Spotting Rounds. Few units adjust their indirect fires. The most common procedure at the JRTC is for a forward observer to call for a fire for effect with the initial fire commands. Consequently, the mortar platoon fires an excessive amount of ammunition but has little effect on the OPFOR.

The major reason for this poor payoff, of course, is that the fires are not adjusted onto the targets. One of the reasons for the lack of adjustment is poor coordination between the mortar platoon leader and the forward observers. For example, the FOs call for a fire for effect but let the enemy target move out of sight before the rounds hit. Also, many fire missions at night that should be adjusted onto a stationary target (an objective or a cache) are not adjusted, because the observer issuing the fire commands cannot see the effects of the HE rounds; and he cannot see the effects of the HE rounds because he failed to coordinate for illumination rounds. Even worse, the maneuver leaders often fail to mention that the rounds will be coordinated with illumination and that the mortars are not within range of the target.

An additional problem is that observers call for fires on targets they cannot see. This causes friendly casualties and wastes ammunition. On the positive side, the FSO occasionally gives the mortars counter-mortar fire commands for targets detected by radar. Although this is an accurate technique for unobserved counter-mortar fires, the units have seldom practiced it at their home stations because the radar that is used is an artillery asset, and the mortars and the FSO rarely deal with each other as a counter-mortar fire team. This indirect fire capability with radar and mortar integration should not be overlooked as a means of improving the accuracy of mortar fires.

Time for Fire Missions. Light infantry forces usually make contact with the OPFOR at a range of about 300 meters. Units in contact call for fire support and want the fire immediately as a way to break contact. In accordance with ARTEP standards, however, the FDC and the mortar crews have more than 10 minutes to adjust their fires onto a target. But in 10 minutes the infantry forces are generally on top of each other. Consequently, the mortar rounds usually have no effect on the OPFOR.

With prior coordination between the mortar platoon leader, the rifle platoon leaders, and the forward observers, the maneuver leaders can plan their schemes of maneuver to create a time and space separation so that fire support can reach the enemy before the infantry closes. This means the maneuver companies and platoons must maintain the current location and status of their subordinate units so that the fires can be cleared without wasting any additional time trying to contact them.

Also, maneuver units can develop maneuver and fire

support plans to reduce the time delay associated with the typical adjust fire missions. For example, one technique — depending on the situation — is to fire a marking round into an area before the infantry elements enter it. All fire missions can then be adjusted from the marking round, which means the mortars can save more than five minutes in their adjustments.

Another technique for saving time and improving the responsiveness of the mortars is for the forward observers in the maneuver units to give the 81mm mortar FDC an ongoing situation report so the platoon can shift the mortars to follow a unit's movement. Even if a maneuver unit does not have priority of 81mm mortar fires, the mortar FDC can at least have the data computed so it can expedite any fire mission from that unit.

Logistical Support. Coordination for logistical support beyond the initial deployment is weak. Seldom do battalions push supplies through to the mortar platoon. Generally, the mortar platoon sergeant has to drive to the trains area to pick up whatever supplies are available. This procedure of having the platoon sergeant pick up supplies has its limitations because of the limited cargo-carrying capacity of the HMMWVs. Supplies, especially Classes IV and V, can be much more efficiently transported on a five-ton truck.

If the platoon sergeant does have to make the resupply transactions himself, however, there are some matters that need to be coordinated. For example, how many trucks will he have available to use on his resupply trips? The platoon sergeant can quickly use all of the HMMWV's cargo carrying capacity transporting the basic load for just one mortar, let alone all four. If the platoon has to transport its own supplies, someone (generally the platoon sergeant) may end up spending most of his time on resupply runs if the mortars are firing any number of missions.

Resupply operations can be improved if the platoon prepares logistical packages (LOGPACs) before its deployments; these packages need to include all classes of supply. Of particular importance to the mortar platoon are the Class IV materials to be used in preparing mortar firing positions.

Finally, results of the JRTC experience reflect that the mortar platoon leader, and other specialty platoon leaders as well, should be integrated into battalion level briefbacks. And it is important for all commanders to understand how the effects and timing of the mortar fires can support their schemes of maneuver. It is a lack of coordination and a poor understanding of the integration of the mortars into the scheme of maneuver that is causing mortar platoons at the JRTC to be underutilized.

Captain Christopher A. Collins, when he prepared this article, was a mortar observer/controller at the JRTC. He is a 1979 graduate of the United States Military Academy and holds a master's degree from the University of Arkansas.

TRAINING NOTES



The Ranger Course

EDITOR'S NOTE: This article, prepared by the staff of the Ranger Training Brigade, is the first in a three-part series designed to prepare Ranger candidates for their future challenge.

The second article will analyze the benefits of attending preparatory training and will offer a sample training outline for the establishment of a pre-Ranger training program. The third will focus on upcoming changes to the course.

For the past 40 years, the U.S. Army Infantry School at Fort Benning, Georgia, has conducted Ranger training. Still, many soldiers reporting for this training are not completely aware of the rigors and challenges awaiting them.

With the outbreak of hostilities in Korea in June 1950, and after a reevaluation of World War II experience, the Army's need for Rangers became apparent. Accordingly, a Ranger training program was started at Fort Benning in October 1950. The headquarters detachment was titled the Ranger Training Command.

These first Rangers were taught to infiltrate enemy lines, to move rapidly and quietly, and to maneuver and fight by day or by night on all types of terrain.

Physical toughness, conditioning, and foot marching were integral parts of the training. The stated goal was to prepare a company to move from 40

to 50 miles cross country in 12 to 18 hours, depending on the terrain. Additionally, Rangers took all of the tests for the Expert Infantryman's Badge, and those who succeeded were awarded EIBs in addition to Ranger tabs on graduation day.

On 22 October 1951, the Office of the Chief of Army Field Forces published a directive entitled "Establishment of Ranger Courses at the Infantry School." The new emphasis was to be on individual training, and the Ranger Training Command became the Ranger Department of the School. The training of Ranger Class Number 1, consisting of 81 students, was conducted from 7 January to 1 March 1952.

LEADERSHIP COURSE

In the following years, the Ranger Course developed a widespread reputation as the armed services' premier leadership course. After Operation URGENT FURY in October 1983, and with the return of light infantry divisions to the Army's force structure, the demand for Ranger-qualified leaders was greater than ever.

A need to reorganize the structure of the Ranger Department became clear when the field demanded more than 3,000 slots per year in the Ranger Course. Accordingly, the Ranger Department was reorganized and designated

the Ranger Training Brigade (RTB) on 2 December 1987.

The RTB currently consists of the 4th Ranger Training Battalion at Fort Benning; the 5th Ranger Training Battalion at Camp Frank Merrill, Dahlonaga, Georgia; the 6th Ranger Training Battalion at Camp James Rudder, Eglin AFB, Florida; and the 7th Ranger Training Battalion at Dugway Proving Ground, Utah.

The Ranger Course, 65 days in length, is divided into the Benning Phase, the Mountain Phase, the Florida Phase, and the Desert Phase. (See the four-part series describing each phase in *Soldiers* magazine, October 1990, November 1990, December 1990, and January 1991.)

The purpose of today's Ranger Course is still remarkably similar to the initial design: In an ideal sense, its purpose is to produce a hardened, competent, small unit leader who is absolutely confident that he can lead his unit into combat and overcome all obstacles to accomplish his unit's mission.

The Ranger Course identifies and further develops leaders who are physically and mentally tough, self-disciplined, highly motivated and committed, who enforce high standards and are able to think, act, and react effectively in stressful situations that approach (and possibly exceed) that found in combat.

The course is designed as an individual leadership course for Army leaders, principally infantry and other combat arms leaders. The course is also open to other branch and service members who meet the prerequisites.

The RTB is programmed to run 12 classes a year, each with a stated course load of 258 students (3,096 annually), although the Infantry School has routinely accepted up to 310 students per class (3,720 annually). During Fiscal Year 1990 course attendance decreased because of the number of units deployed to support Operation DESERT STORM, and the RTB trained a total of 2,904 officers and enlisted personnel. Of the 1,749 officers, 52 percent were infantry, 21 percent from the other combat arms, and 28 percent a mixture of other branches. Of the 1,155 enlisted personnel, 81 percent were in CMF II, 6 percent in other combat arms, and 13 percent other branches.

Before being enrolled in the Ranger Course, a student must meet the following entrance criteria:

- Pass the Army Physical Fitness Test (APFT) in accordance with Field Manual 21-20 with a minimum score of 52 pushups, 62 situps, 14 minutes, 54 seconds or less for the two-mile run, and 6 chinups.

- Pass the Combat Water Survival Test (CWST) consisting of a 15-meter swim, equipment removal, and three-meter drop.

- Have no limiting physical profile.
- Have a current medical examination stamped "Ranger" and dated within 18 months of the start date for the class.

- Produce verification of panorex.

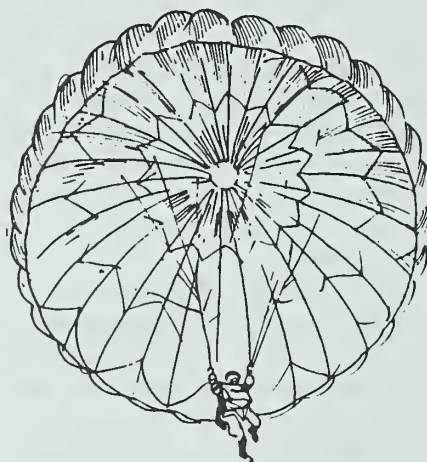
In addition, soldiers who have suffered previous heat or cold injuries are not enrolled in summer or winter classes, respectively. And students who are allergic to bee and wasp stings are not enrolled without prior treatment.

Of the 3,537 students who reported to the Ranger Course in FY 1990, 587 (17 percent) failed to meet these standards and were not enrolled. Most of these—303—failed to meet the APFT standard (predominately for pushups); 199 failed the CWST (principally the 15-meter swim); and 64 were

allergic to bee or wasp stings. The rest had medical or administrative problems.

Students who are not enrolled are offered an opportunity to recycle to the next class if they are willing and their units authorize it. These soldiers then undergo an intensive training program that targets their individual weaknesses. It has been our experience that after completing this program, most of the soldiers do successfully meet the entrance requirements.

High attrition has been a by-product of the Ranger Course since its inception. For example, Ranger Class 1 in 1952 had a 42 percent attrition rate. Although some periods have reflected lower



attrition than others, when the modern course was expanded to four phases and the student load was increased to above 3,000, the attrition figures rose to around the initial course results. The attrition rate for FY 1989, for example, was 38 percent and for FY 1990, 40 percent.

In FY 1990, 1,180 students were relieved (dropped) from the course because of failures in eight categories:

CWST. As mentioned previously, those who fail the CWST are not enrolled but are offered a recycle opportunity. Those who fail a second time are relieved from the course.

Land Navigation. Students who fail land navigation are retested. If they fail the retest, they are given a recycle opportunity. Those who fail land navigation in the next cycle are relieved from the course.

APFT. As with the CWST, students who fail the APFT on recycle are relieved from the course.

Ranger Run. During the Benning Phase four runs of 5, 3, 4, and 4 miles are conducted at an 8-minute per mile pace on a moderately rolling hard-surface route. Soldiers who fail the five-mile run or any two of the other runs are given recycle opportunities. Those who fail runs in the next cycle are relieved.

Lack of Motivation. Students who voluntarily quit the course are permanently relieved unless an officer in the rank of colonel or above in their chain of command obtains a waiver from the Ranger Training Brigade commander.

Medical. Students who miss more than 72 hours of training throughout the course are offered a recycle opportunity. Students who have medical problems that require more than 10 days recovery time are relieved. (Medical problems are difficult to assess objectively.) The Benning Phase has an extremely high medical attrition rate, partly due to a lack of individual resolve; many consider a medical drop as an honorable way out of the course.

Training Deficiencies. Students who fail to meet the standards for peer evaluations, patrols, or spot reports in any phase are given a recycle opportunity in that phase. Those who fail that phase again are relieved. No more than two recycles are allowed, except for medical recycles.

Attrition is relatively high, but the Ranger standards are maintained. The best way for a unit to reduce its attrition rate is home station screening—to select highly motivated, committed Ranger candidates—and rigorous physical preparation.

To be fully prepared to attend the course, every student should review the following documents:

- SH (Student Handout) 21-75, The Ranger Course Pamphlet, dated September 1989.

- SH 21-76, The Ranger Handbook, dated June 1988.

- The Ranger Challenge video, a 16-minute tape that explains each phase of the course. (This tape is provided to

all Infantry Pre-Command Course students while they are at Fort Benning.)

In preparing soldiers to attend the Ranger Course, there is no substitute for leader training in the parent unit. As an example, in comparing students who had pre-ranger training with those who had not, current figures indicate that at least 13 percent more of those who had had this training passed

prerequisite testing, and that at least 13 percent more of those with pre-training successfully passed the course. A more thorough screening and pre-training by the chain of command will go a long way toward laying a foundation for success.

The Ranger Course continues to produce tough, confident leaders who are capable of pushing themselves to the

limit of physical endurance. Course graduates are prepared to live up to the Ranger motto so valiantly earned by the 5th Ranger Battalion on D-Day 1944: *Rangers Lead the Way*.



Understanding Fire Support

CAPTAIN JONATHAN D. THOMPSON

Field artillery is undoubtedly the infantry's most important source of fire support. It is therefore essential that each branch understand the way the other functions. Unfortunately, though, many company grade officers of both branches know little about the other. This lack of understanding and experience prevents both the maneuver company commander and the fire support officer (FSO) from taking full advantage of the fire support means available.

In an effort to improve understanding on both sides, the Infantry School at Fort Benning, Georgia, and the Field Artillery School at Fort Sill, Oklahoma, have started a program in which graduates of the Infantry Officer Advanced Course (IOAC) attend a portion of the Field Artillery Officer Advanced Course (FAOAC).

An Infantry officer attending FAOAC explains maneuver doctrine and tactics to the Field Artillery officers as they prepare their orders. To do this, he fills a staff position such as the S-2 and advises the student S-3 during the planning. In exchange, he receives a full understanding of what fire support can do for him. As a result, when he becomes a company commander and a

battalion staff officer, he will be far better able to integrate fires into a maneuver plan.

While at Fort Sill, the Infantry officers go through the small group instruction (SGI) phase, which lasts 12 weeks. This instruction focuses on preparing Field Artillery officers to serve as battery commanders and battalion and brigade FSOs. A Field Artillery major leads each small group, which consists of 15 to 18 students.

The small group leader teaches primarily through practical exercises in which the students receive a tactical scenario and then use the estimate process to develop a five-paragraph operations order. While this process is similar to that in IOAC, the FAOAC concentrates more on battalion and brigade level orders.

I attended FAOAC as a member of the second test group to participate in the program. The course taught me several important lessons. While these lessons are not new, they may serve as reminders for future company commanders who have had no combat experience.

Fire support is the maneuver commander's responsibility. Of course, at company level, the fire support officer

will advise the maneuver commander and coordinate fires. This lesson implies two things. First, the maneuver commander must know the language of fire support. (See *"The Language of Fire Support," Lieutenant Colonel Robert D. Sander, INFANTRY, March-April 1990, pages 21-24.*) Secondly, the FSO must understand maneuver tactics, control measures, and terms. Since a company FSO is usually a junior Field Artillery lieutenant with little or no experience with maneuver forces, the commander should sit down with him before they go to the field to make sure they understand each other.

The commander's next step is to explain his scheme of maneuver to the FSO and the way he wants the available fires to support it. This results in the commander's concept for fires, which the FSO will write in the Fires paragraph of the operations order. The FSO can then plan the use of supporting fires to assist the commander in accomplishing his mission.

The commander's responsibilities do not end with the planning phase. He also needs to include the FSO and the fire plan into all rehearsals. During the battle, he needs to ensure that the FSO executes fire missions when and where

he wants them. A failure during any part of this process rests squarely on the maneuver commander's shoulders. Thus, he and not the FSO is responsible for fire planning and execution.

Fires must be planned with a purpose. This second lesson derives from the first. Once again, the success at this point depends on the commander's understanding of the language of fire support. He not only needs to know the definition of *targets, series, groups*, and the like, but he must know what fire support he has available. In addition, he should have a realistic picture of what he can accomplish with the resources he has available. For example, if only the battalion mortar platoon will support the unit, he cannot expect that unit to stop a motorized rifle company.

Another problem with fire planning is where to put targets. In my IOAC class, we often planned targets on such major terrain features as hills and road intersections. Then, as the situation required, we would shift from those known points.

The battalion FSO, however, may allocate only 8 to 15 targets to a company FSO. With this limited number, the company commander and his FSO need to plan their targets at critical locations on the battlefield. For example, if the commander's purpose is for the fires to suppress all enemy observation points (OPs), then a critical target might be any known or likely OP. Another critical location might be a river crossing site where the commander may want smoke.

By identifying a purpose and carefully planning their supporting fires, the commander and FSO will reduce the response time the artillery needs. More important, the fires will, indeed, support the scheme of maneuver.

The commander must know and use fire support coordination measures. Fire support coordination measures (FSCMs) are an important tool for the commander to use in protecting his soldiers while providing timely fires. Since the maneuver commander must approve any FSCMs recommended by the FSO, it is imperative that he understand their meaning.

At company level, the commander will most commonly use a coordinated fire line (CFL), a restrictive fire line (RFL), and an airspace coordination area (ACA).

A CFL is permissive in that it allows units to fire across boundaries without further coordination. Thus, before putting a CFL into effect, the commander must ensure that all the troops are behind the line.

An RFL prevents converging units from firing at each other, and it applies to both indirect and direct fires. The headquarters common to both converging units will establish an RFL, but the approving authority for fires is the commander into whose area the fires will go.

An ACA allows simultaneous engagement by both indirect fire and air



support. In other words, it prevents artillery units from shooting into an aircraft's flight path. The easiest and most preferred method of establishing an ACA is informally, on the basis of major terrain features. To be effective, the commander needs to know where the aircraft are coming from and by what routes they will leave the area. If an ACA is informal, the FSO can turn it on and off as required.

Other FSCMs include free fire areas, restrictive fire areas, no fire areas, and a fire support coordination line. Most of the time, a headquarters higher than brigade will establish these, but commanders at all levels need to know their definitions.

The maneuver commander must understand the capabilities and limitations of munitions. Since the M712 Copperhead projectile is a limited resource, normally either the battalion or brigade commander will retain control over it. If brigade gives Copperhead priority to a battalion, however,

the battalion commander can further delegate that priority to one of his companies or teams. If this happens, the responsible company commander must understand its limitations so he can achieve the greatest effect in the engagement area.

In an armor or mechanized company, the FSO's fire support vehicle (FSV) contains a ground or vehicle laser locator designator (G/VLLD) with which the FSO can designate targets. The company may also have a combat observation laser team (COLT) attached, which has the same capability as the FSV. If the company commander has Copperhead responsibility, he must carefully plan the location of the designating source, keeping in mind the following points:

- The location must permit the observer to designate the target for at least 20 seconds. Thus, he will need a tracking window similar to the one a TOW system requires.

- The angle between the gun-target line and the observer-target line (angle T) cannot exceed 800 mils. Otherwise, the target will not reflect enough laser energy for the round to acquire it.

- Since the M113-based FSV cannot keep up with the M2 Bradley fighting vehicle or the M1 tank, if the unit will be moving, the commander also needs to consider the time it will take the FSV to move. This will help him plan positions so he will always have the designating capability available.

Another limitation with the Copperhead is the effects of smoke and dust on the round. Too much obscuration will diffuse the energy reflected off the target, and once again, will prevent the round from acquiring the target. Thus, if a company commander is going to fire Copperheads in an engagement, he needs to do it early before subsequent rounds create too much smoke and dust.

The commander must know the limitations of artillery-delivered minefields. Rarely will a company commander be given the authority to emplace a FASCAM (family of scatterable mines) minefield in or near his area of operations. But if he is given that authority, he must know something about FAS-

CAM. In addition, the battalion commander may ask his subordinates to nominate areas for minefields.

Once a unit employs FASCAM, the mines have a pre-set self-destruct time so that units can use the area after the mines have exploded. But the commander should not count on every mine to self-destruct, and he should use caution if he must move through a former FASCAM area.

Another concern of the company commander should be what will happen to his fire support if the supporting artillery unit shoots FASCAM. It will take a 155mm field artillery battery 20 minutes to fire a planned minefield of 400 x 400 meters and an additional amount of time to displace to reduce the counterfire threat. During this time, no other artillery fires will be going out.

If the direct support field artillery battalion is not reinforced, this will take away one-third of the brigade's artillery support while the unit emplaces the mines.

Lastly, if a company commander is asked to nominate a target area to the battalion, he should realize that the mines are not good on all terrain. They will be less effective if employed on hard areas such as those in cities or on soft areas such as marshes or snow-covered terrain. (It is well to note that remote antiarmor mine system (RAAMS) mines will not deploy their tripwires if they tilt more than 50 degrees. Thus, they should not be used on steep or broken terrain.)

Although these are not new lessons, in a peacetime Army many infantry units may not get to train with the

artillery units and other fire support elements they may work with in combat.

Fire support will play as important a role in the future as it has in past wars. As the OAC infantry-artillery program develops more fully, it will play a part in teaching company grade infantry officers about fire support and future FSOs about maneuver. The end result will be better synchronization between artillery and maneuver forces, with correspondingly better results on the battlefield.

Captain Jonathan D. Thompson, an Infantry officer, is assigned to the 3d Infantry Division. He previously served as a platoon leader, company executive officer, and assistant battalion S-3 in the 7th Infantry Division. He is a 1985 ROTC graduate of Wheaton College in Illinois.

Artillery Effects Test

**GEORGE A. DURHAM
CAPTAIN RORY J. OGLE**

As part of a study of artillery effects, the following scenario was fired three times in a test at Fort Sill in June 1990:

A mechanized infantry team commander is given a mission to defend and hold key terrain. After a review of the area, he develops a plan and assigns areas of responsibility to each of his subordinate platoon leaders. With engineer support, fighting positions with overhead cover are prepared for the infantry. Turret and "hull-down" positions are prepared for the Abrams tanks and Bradley fighting vehicles. Obstacles consisting of a tank ditch, minefields, and wire are emplaced in front of the infantry positions.

Enemy intelligence units monitor this

activity and information is collected. The enemy commander is ordered to attack. As part of his plan, an artillery preparation is ordered with a criterion of 30 percent destruction. Three enemy artillery battalions fire 2,600 rounds of conventional munitions and 15 minutes later, 50 percent of the defenders are dead or wounded.

This test was designed to examine both U.S. and threat doctrine and to measure artillery effects on troops and equipment entrenched in a defensive position. The effects were more devastating than our Joint Munitions Effects Manuals (JMEMs) predict. They clearly demonstrated that an artillery unit firing Soviet norms can achieve the desired degree of destruction. At the

same time, though, they also demonstrated that properly constructed defensive fighting positions and properly protected soldiers will help units survive artillery fires.

Our "target" was a defensive position designed by representatives of the U.S. Army's Armor and Infantry Schools. The position design was based on a European scenario (see diagram). The doctrine used to establish dismounted defensive positions is essentially the same, however, for either a European or a Southwest Asia (SWA) scenario. The threat forces that U.S. Army ground forces faced in SWA used essentially the same doctrine as that of the Soviets. Thus, the results obtained from the test are valid for either situation.

Although the test was fired on a varied array of targets, this article will discuss only the effects on the infantry fighting positions.

Once the defense plan was outlined, combat engineers constructed the fighting positions and obstacles. Representatives from the U.S. Army Engineer School supervised the construction to ensure that it proceeded in accordance with Field Manual (FM) 5-103, Survivability. The positions were manned with wooden mannequins clothed in U.S. uniforms and using U.S. equipment.

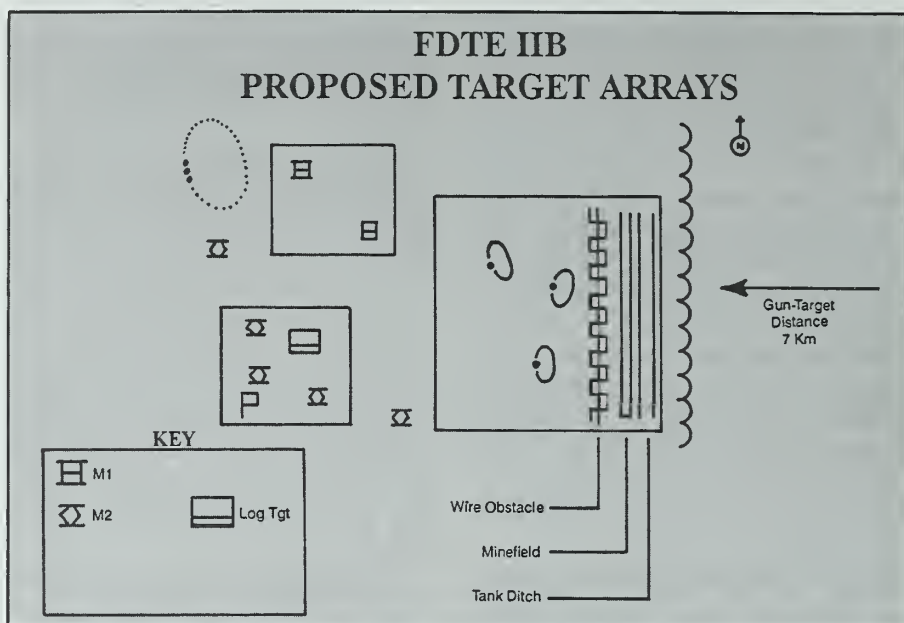
The TRADOC Research Analysis Command developed the fire plan for the Soviet artillery effects test, applying Soviet techniques to U.S. delivery systems. We fired only the preparation for the attack portion of the fire plan. The "threat artillery" was given a series of intelligence summaries that provided the targeting data; these summaries were designed to give the "enemy" only the information he could expect to receive from his own collection agencies. The "threat commander's" criterion for the preparation was 30 percent destruction, and the targets were engaged in accordance with Soviet doctrine.

A 24-gun 155mm battalion fired the test, representing a 152mm Soviet artillery battalion. The target array was attacked with 1,152 rounds of high explosive (HE) ammunition armed with both point-detonating (PD) and variable time (VT) fuzes.

We measured results on the target array incrementally (after volleys) and again after the entire preparation was fired. The following are our observations:

- A fighting position built to the specifications of FM 5-103 will withstand artillery rounds that hit 15 feet or more from the position. Although this observation is valid for all 155mm or smaller weapons, rounds that hit within 15 feet can destroy even good positions.

- Personnel in properly constructed fighting positions are protected from much fragmentation and blast. This does not take into account the physiological and psychological effects on personnel caused by artillery fire, because there was no way to measure



this during the test. History has shown, however, that unmotivated or poorly trained soldiers do not stand up well to large concentrations of artillery.

- Artillery rounds will collapse overhead protection if it is not properly constructed.

- Kevlar helmets and the personnel armor system for ground troops (PASGT) improve personnel protection against fragmentation. There were many incidents in which fragmentation was stopped by a helmet or PASGT.

- Positions built on rear slopes offer increased survivability.

- Fighting positions should not be built any larger than necessary. Larger positions require additional construction material as well as reinforcement material for the added overhead weight. Additional space and a larger opening also make it easier for fragments to enter the fighting position.

- Quick, accurate counterbattery fires are the best defense against artillery attack. Counterbattery fire was not included in the test, and the threat was allowed to fire the entire fire plan. Enemy fire must be countered immediately.

- If a unit is targeted while in a relatively static defensive posture, it is extremely vulnerable to incoming artillery fire.

This force development test demonstrated that properly constructed fight-

ing positions can protect dismounted infantrymen from artillery fires. Additional work needs to be done, however, in redesigning the contents of a push package for survivability materials. In the current configuration, these materials are bulky and heavy. Too, the current designs for overhead cover do not allow for difficult or degraded building conditions.

The Army needs to develop a simple "how to" manual for constructing field fortifications. No such simple guidance manual now exists.

To survive, a unit must train its soldiers in the proper construction of fighting positions, making the best possible use of natural terrain and any available materials. In short, units must prepare their defensive positions before the enemy opens fire, and must kill his artillery before he can kill them.

George A. Durham, a retired Field Artillery officer, served in Vietnam as a forward observer and fire direction officer and has commanded artillery batteries. He has worked on the Study of Artillery Effects project since its beginning.

Captain Rory J. Ogle, a Field Artillery officer, has also worked on the project since its conception. He has served in Europe with the 8th Infantry Division and at Fort Sill with the U.S. Army Field Artillery School and III Corps Artillery.

Training Combat Support

LIEUTENANT COLONEL THOMAS R. ROZMAN

Training combat support elements to standard has always been a challenge for maneuver commanders, and it probably always will be. But this training can be managed successfully. This article examines an approach that one mechanized infantry battalion took to solving this problem. Some of the ideas and methods may be useful for others units that must come to grips with training "low density" subordinate units.

Successful combat support unit training within a maneuver battalion seems reasonably achievable. Theoretically, the time for planning and the resources to support such training are available. The soldiers who are assigned by the replacement system are supposed to be competent in their military occupational specialty (MOS) skills. The leaders at all levels are expected to be knowledgeable about and proficient in the application of combat support elements—at least enough to envision, plan, and manage combat support training requirements properly.

Unfortunately, though, as most of us know from experience, few of these factors are as they should be at any given time. All too frequently, one or more of them is deficient. The result is often an improperly trained, and therefore not combat ready, scout, mortar, or antitank force within the battalion.

This is unquestionably a direct product of the deficiencies at work, through things done or left undone by the battalion staff and leaders and through forces outside the battalion. For purposes of this discussion, I will call them "training distractors."

Training distractors come in two categories—external and internal. Both have elements that can be influenced

by a unit and its commander and others that cannot. For instance, if a battalion has a significant say in planning for and applying the resources under its control—time, unit personnel and equipment, and others—it can keep the effects of potential internal distractors to a minimum by adhering to a well-thought-out and flexible training scheme. Through a deliberate and systematic planning and coordination effort, it may even be able to improve its access to such training resources as schools, ammunition, ranges, maneuver areas, and critical TADSS (training aids, devices, simulations, and simulators). It is worth noting, however, that access to many of these resources is controlled from outside the battalion and may represent possible external distractors.

EFFECTS

But distractors also come in forms that are less controllable and tougher to identify and characterize, and therefore more difficult to correct or lessen in terms of their negative effect on training.

Most of us are familiar with the crown jewels of external training distractors. Some favorites have been personnel turmoil, "hey, you" support missions, and other last-minute taskers that make a mockery of unit training schedules. Worse, the insidious drain of soldiers from training by myriad mandatory individual training requirements or other administrative "must do's" for individuals or small groups of soldiers can sap the present-for-duty strength of units trying to conduct training. For the combat support training units, one of

a kind and often small in number, this latter distractor alone can be fatal to effective training.

Other distractors that derive from a combination of single or multiple human frailties (such as command and staff ignorance concerning the technical use of a support arm and its capabilities and limitations) can be just as debilitating to training. We have all seen commanders shy away from areas in which they are weak and emphasize areas in which they are strong. Unless such a commander has an unusually dedicated and self-motivated subordinate, the typical result is that "the unit does well only what the boss checks." Without support, even the most dedicated and motivated subordinate can go only so far.

But these distractors can be mitigated. The challenge is to carve out of the granite face of distractor adversity opportunities for low-density units to practice their required battle skills and capabilities to the required standards. Leaders who are not familiar with their combat support units must challenge themselves to know the business of these units and to create the best possible training environment for them. Part of the solution is iron-willed self-education and planning. The following is a case study of what can be done:

Like many units in the Army, this battalion's mortars were in sad shape. The battalion was still organized under the H-series table of organization and equipment and had a 107mm mortar platoon of four mortars in the combat support company and three 81mm mortar platoons of three mortars each assigned to Companies A, B, and C. The 107mm platoon had just failed its Army Readiness Training and Evalua-

tion Program (ARTEP) exercise, and the 81mm platoons were in even worse shape.

The new commander and his operations and training officer (S-3) were determined to turn the situation around. They believed that the mortars were a vital element in the battalion's combat power. This perspective was underscored by its parent brigade's XVIII Airborne Corps mission. The question was how to overcome a mind-set throughout the brigade that did not emphasize proficient combat ready mortar units or create an environment that produced them. (All ten of the brigade's mortar platoons were equally deficient—including the consolidated 107mm mortar squads of the armored cavalry unit.)

An examination of the problem and its possible solutions led to a "walk before we run approach." The first order of business was to give the 107mm mortar platoon another ARTEP after it conducted a carefully laid out training plan that gave the platoon systematic practice in its individual and collective skills.

Because time was short, the plan would emphasize a multi-echelon approach. (The battalion was anticipating its own ARTEP.) All available training resources (TADSS, ammunition, OPTEMPO, ranges and maneuver areas), would be used to full advantage. The battalion's resources in the form of planning, evaluation, tactical operations center (TOC) personnel, and the like would be applied to support the platoon's training. In fact, the S-3 would find the assets that were needed to plan and execute a thorough training program and conduct the ARTEP.

At the same time, it was necessary to solve a leadership problem in the platoon. The platoon leader, for example, was not particularly strong, and had not attended the Infantry Mortar Platoon Course.

The new battalion commander, after weighing all the factors, as well as reflecting on his personal observations of the platoon and its leadership on the failed ARTEP, determined that the platoon's members had little or no confidence in their leaders and felt a

change had to be made before any positive results could develop. He therefore appointed a new platoon leader and designated several NCO replacements.

To pursue the "get well" program for the 107mm platoon, the S-3, in cooperation with the combat support company commander, formed a planning and execution task group led by his primary assistant, the battalion S-3 Air. The guidance was straightforward: Develop a program, coordinate it, and execute it. The ARTEP would be conducted in six weeks.

The S-3 Air developed a plan that was oriented toward the mortar platoon's mission essential task list (METL). His plan put the platoon in the greatest possible number of situations in which it could practice ARTEP tasks at the individual, crew, and collective level to standard in the available six-week period. If the platoon mastered multi-echelon training techniques within the performance oriented training approach, continuous evaluation and improvement would result. Performance to standard would be validated in enough time to restore the unit's confidence in its ability to succeed, if not to excel, on the coming ARTEP.

During the six-week cycle, the platoon was allowed certain periods of preparation leading to the gunners test, then moved to a series of field deployments that exercised the platoon as if the whole battalion were deployed. For instance, a TOC (minus) consisting of an M577 command and control vehicle and select TOC personnel, as well as other necessary support provided the basic slice of command and control and support necessary to implement a scenario that exercised all ARTEP tasks.

The S-3 Air built the program and made sure all the necessary training resources were coordinated and available. The new platoon leader led his platoon through the program. (The plan involved specific periods that came directly under the platoon leader, such as the gunner test.) The end result was highly satisfactory to the battalion; the 107mm mortar platoon did exceptionally

well on the ARTEP.

The experience of putting the 107mm mortar platoon on the right footing seemed to have some lessons that if applied throughout the battalion could benefit all of its low-density units. In effect, it pointed toward a focused program that would exercise these units in increasingly demanding training environments leading to the objective standard—the ARTEP. This problem, of course, would have to be heavily supported by the battalion headquarters.

The major question that had to be answered was whether the six-week program that had been developed could be refined into a regular program to exercise the battalion's four 81mm mortar platoons. If so, this would bring them to ARTEP standard every six to eight weeks in a combination field training exercise (FTX) and combined arms live fire exercise (CALFEX) format. The objective event would be structured on ARTEP tasks, conditions, and standards but could be conducted as a TOC (minus), mortar platoon pure, exercise as if the entire battalion were deployed for 48 to 72 hours.

The S-3 Air believed that the concept could be fully supported and, in fact, would yield the desired results. The battalion commander made his decision and directed the S-3 to plan and execute a first cycle for all of the mortar platoons. As with the 107mm mortar platoon, the S-3 Air would then plan and execute the operation.

Using as a baseline the strategy developed for the 107mm mortar platoon, the S-3 Air adjusted this package to accommodate the 81mm platoons. Within a week, the battalion's four mortar platoons were engaged in a focused training program. That program was aimed at deploying six weeks later on an exercise that would measure the unit against ARTEP standards. The fact that all four platoons were in the field being reviewed (the direct support artillery battalion provided additional resources for the observer-controller function) added a degree of competitiveness and heightened interest.

The results of the first battalion combined mortar FTX were so encour-

aging that the commander chose to put his mortars on a continuous program in which they deployed once every six to eight weeks on the capstone FTX. The design of the exercise (scenarios and terrain) was such that other battalion elements could be integrated as desired. Company headquarters could participate with the mortars, for instance, or the TOC (minus) could fill this role. The key point is that the mortars were exercised on a regular basis up to a "live shot." Thus, for ARTEP or readiness missions, they were proficient.

As the battalion moved into the second and third iterations of the mortar shoot, the effect on the mortar platoons became more apparent. The soldiers began to view themselves as being something more than an appendage of the companies and the battalion and increasingly as a vital and "elite" combat multiplier. They were mortarmen and proud of it! The next round of 81mm and 107mm ARTEPs were proof. The mortars excelled despite soldier and leader turbulence. They were a respon-

sive and reliable combat asset of the battalion.

Although this program can certainly find parallels in many quarters, in my experience the battalion's approach was not typical. First, the leaders were willing to rise above the limitations in their past service experience and to focus on a specialized part of the organization that normally did not determine the day-to-day success or failure of the commander in traditional U.S. Army garrison routines. Second, the authority and responsibility given to the S-3 Air approached a company command level. But most impressive was the commander's vision in realizing how much fully trained and proficient mortar platoons would add to his warfighting capabilities. The happy combination of these and other factors produced a highly effective training program for a low density combat support arm of the battalion.

The battalion eventually applied this model to all of its combat support elements and, to some degree, to its

combat service support elements as well. Certainly success was not always achieved, but the unit always had a sound awareness of its strengths and weaknesses in the combat support and combat service support areas. It also had an effective system for improvement. It may be added that an aggressive effort to get officers and sergeants to the Infantry Mortar Platoon Course was another battalion trait.

This story illustrates what committed and resourceful leadership can do. There is no excuse for poor combat service support. This battalion validated that premise.

Lieutenant Colonel Thomas R. Rozman is assigned to the Office of the Deputy Chief of Staff for Training, U.S. Army Training and Doctrine Command. He previously served in various mechanized infantry assignments and as Chief of G-3 Training Resources, 1st Armored Division. He is a 1970 graduate of the United States Military Academy and holds a master's degree from the University of Massachusetts.

SWAP SHOP



Thermal TRP

Ever since the Army adopted a thermal sight for our modern weapon systems, there has been one major problem with their tactical employment. That problem is how to set up a thermal target reference point (TRP) that will easily pick up an oncoming enemy without being totally obvious to him.

When the 24th Infantry Division deployed to Saudi Arabia for Operation DESERT SHIELD, my company commander tasked me to figure something out for our company to use as a TRP. He gave me two guidelines:

- Make sure the Bradley crews can clearly see the TRP at the maximum engagement lines (MELs).
- Don't let the Iraqis know it's there.

After experimenting with several solutions, I came up with a simple solution that any mechanized unit can adapt without having to obtain any special equipment or burn petroleum products that are needed elsewhere.

EQUIPMENT REQUIRED:

- 1 7.62 or 5.56 ammunition can.

2 8-inch sections of quarter-inch cotton web rope.

1 5-gallon antifreeze or oil can.

1 long engineer picket.

2 feet of WD-1 wire.

1 gallon of diesel fuel.

CONSTRUCTION:

Punch two holes about four inches apart in the top of the ammunition can. Run a rope section through each hole. Fill the can with the diesel fuel and close the lid. Wire the ammunition can to the engineer picket, about a foot from the top. (The picket should already be driven in the ground.) Place the antifreeze can, lid removed, onto the picket, covering the ammunition can.

When lit, the burning ropes will heat the antifreeze can, creating a large thermal target but will not produce a lot of light. A few holes punched into one side of the antifreeze can will also turn it into a good TRP for use with night observation devices.

(Submitted by Lieutenant William E. Owen, 3d Battalion, 15th Infantry, 24th Infantry Division.)

OFFICERS CAREER NOTES



EDITOR'S NOTE: Although the Defense Switched Network (DSN) replaced the old Automatic Voice Network (AUTOVON) in April 1990, many of us (INFANTRY included) have continued using the familiar AUTOVON to designate those telephone numbers. From now on, we will use DSN instead.

CALLING INFANTRY BRANCH

On a perfect day, we have only ten assignment officers to help the more than 10,000 officers assigned in the Infantry. As a result, we all understand how hard it is for those of you in the field to get through and talk to a specific assignment officer.

Although you do need to discuss assignment actions directly with your assignment officer, in many cases, you can call the same number and talk with the civilian technicians instead. This will save you time and frustration. (An Infantry Branch telephone directory can be found elsewhere in these notes.) These civilian staff members can provide valuable assistance in the following areas: Status of requests for orders, officer record brief corrections, school dates, officer evaluation report profile data, and status of latest photo.

If the telephone number for your assignment team is busy, calling another team's number may waste time and still not get your question answered. If necessary, call the Branch common number—DSN 221-0207 or commercial (703) 325-0207. If the technician cannot help and your assignment officer is not available, leave a message along with the subject of your call and both your DSN and commercial telephone numbers. If assigned overseas, include your commercial duty and home numbers whenever you call. It is often

difficult for us to call outside the continental United States on DSN or FTS (the Federal Telecommunications System).

Before calling Infantry Branch, try to get as many questions as possible answered through your chain of command, your local military personnel office, or reliable publications. But call when you need us, and we will do our best to help.

PROFESSORS OF MILITARY SCIENCE

The annual ROTC Professor of Military Science (PMS) board normally meets in October and November each year. Although these positions are not equivalent to Command Designated Position List (CDPL) battalion command, they are commands. And they are extremely important, because they train and develop the Army's largest accession pool of officers.

Nominees must be in the rank of lieutenant colonel or major; be qualified at Military Education Level (MEL) 4; and have masters' degrees. Recent troop experience is also desirable.

Interested officers should contact MAJ Matt McCarthy at DSN 221-5510/0207 or commercial (703) 325-5510/0207.

RECRUITING BATTALION COMMAND

The next U.S. Army Recruiting Command (USAREC) battalion command selection board is tentatively scheduled to convene in September 1991. The Board will select commanders to fill vacancies that will occur between February and July 1992. In the near future, USAREC will publish a list of

the specific battalion slots that will be filled.

Infantry Branch will have requirements both for former battalion commanders and for those who have not yet commanded. In the past, Infantrymen have fared well in the selection rates and in being slated according to their individual preferences.

Interested officers should contact MAJ Frank Roberts, DSN 221-5510 or commercial (703) 325-5510.

BRANCH QUALIFICATION FOR MAJORS

After the scheduled deactivation of units in Europe and of the 2d Armored Division at Fort Hood, there will be 84 TOE infantry battalions. That number provides a total of 168 positions that will branch qualify majors (battalion S-3s and executive officers).

The specific number of S-3 positions available at brigade level is hard to determine, since it is unknown how many heavy brigade S-3 positions will be filled by Armor officers. A safe assumption, however, would be 28. Therefore, the number of branch qualifying TOE positions available for majors will be 196.

An officer is selected for promotion to major at his nine-year mark. (The board normally meets in September and the results are released in November or December.) His actual promotion time is near the 12-year mark. A major is selected for promotion to lieutenant colonel at his 16-year mark, with promotion at 17.6 years. Therefore, a major's basic window of opportunity for branch qualification is between 12 and 16 years. Given approximately 240, 320, 340, and 360 in the Year Groups 1975 to 1978, 1,260 majors in Infantry branch will be affected.

Branch qualification requires 12 months in a position. If each major serves only 12 months, 196 officers per year can attain branch qualification, or 784 during a four-year period. That will allow a branch qualification rate of only 62 percent.

In almost every case, however, a brigade S-3 is selected from its available battalion S-3s or XO's, thereby reducing the available branch qualification jobs by 28 per year, or 112 over four years. The success rate then drops to 53 percent (672 positions out of 1,260 officers).

The exact number of majors who will have more than 12 months of qualifying time could be determined only through a complete search of records, and that number would change continuously. But an estimate of one-third of the eligible majors can be used to illustrate the problem:

If one-third of the available positions are filled each year by branch qualified majors, only 131 new positions will be available (524 in four years). The success rate will then be 41.5 percent, which is probably a closer approximation of the current actual figure.

The concern at Infantry Branch is the long-range effect this will have on the infantry population. There is an accepted idea that an officer should serve as a major in a muddy boots position at battalion level to make lieutenant colonel. Although selection boards have shown that this is not an absolute requirement, a list of officers who were not selected for promotion to lieutenant colonel will include a disproportionate number of officers who did not serve with troops. But usually the latter group of officers has a much lower level of performance than those who were selected for these key positions.

This year's lieutenant colonel promotion list showed that infantrymen fared well compared to the rest of the Army. Because of the reduction in the number of key jobs available, however, future selection rates may continue to decline at a higher rate than other branches.

In short, not all majors (resident or non-resident MEL 4s) will get their branch qualification in TOE units. A

safe estimate is that about one-half will. Statistically, branch qualification does increase their chances for promotion to lieutenant colonel, but the overall strength of an officer's file is the key.

Our advice to all Infantry majors is that if it appears you will not be assigned as an S-3 or XO in a TOE infantry battalion or brigade, you should actively seek the same position in other units. Interview for positions in other types of battalions—support, special, TDA, or recruiting. You will increase your chances for promotion by doing so.

IOAC ATTENDANCE

Promotable first lieutenants assigned to units in Europe or Panama will attend the Infantry Officer Advanced Course (IOAC) when they return. All others will attend after they have completed between 42 and 48 months time-on-station.

Lieutenants who have served their initial tours of duty in Korea and then returned to the States can expect to spend at least 36 months in their second assignments before attending. We will work on a case-by-case basis, however, to move selected officers before 36 months if their commands concur in the decision.

We also send 5 to 10 Infantry officers to each Armor Officer Advanced Course (AOAC) class. Officers who want to attend AOAC should send a DA Form 4187 to Infantry Branch.

Officers in Year Group 1988 will not be slated to attend an officer advanced course until they have first been selected for retention by the CVI/RA (conditional voluntary indefinite/Regular Army) Retention Board or have been selected for promotion to captain.

Officers who are on orders to attend an advanced course but are deployed to Southwest Asia and cannot be released by their units should not worry. We will reschedule them to attend as soon as possible.

IOAC schedules for the rest of Fiscal Year 1991 and for FY 1992, along with FY 1992 AOAC schedules are shown here.

The POC for IOAC is CPT Bob Pricone.

FUNCTIONAL AREA DESIGNATION, YG 1986

The functional area (FA) designation process for officers in Year Group (YG) 1986 is scheduled to begin in June 1991. Letters will be mailed to individual officers at that time instructing them to complete special mark-sense forms indicating their preferences and to return them by September. After designation, all future assignment actions and professional development plans will take into account an officer's FA.

If you are in this year group, you are encouraged to read DA Pamphlet 600-3, Commissioned Officer Profes-

IOAC SCHEDULE		
CLASS NO.	START DATE	END DATE
91-4	29 Jul 91	19 Dec 91
91-5	26 Aug 91	31 Jan 92
92-1	03 Nov 91	09 Apr 92
92-2	26 Jan 92	16 Jun 92
92-3	22 Mar 92	11 Aug 92
92-4	26 Jul 92	17 Dec 92
92-5	23 Aug 92	29 Jan 93
AOAC SCHEDULE		
92-1	20 Oct 91	27 Mar 92
92-2	05 Jan 92	27 May 92
92-3	05 Apr 92	25 Aug 92
92-4	07 Jun 92	28 Oct 92

sional Development and Utilization, in the Officer Ranks Personnel Update and to talk with your chain of command concerning your functional area options.

Since you could spend a good portion of your career in that functional area, you should select one that interests you, one that you think you will do well in, and one that you qualify for. Some areas require long training periods and often opportunities for civil schooling. On the other hand, some could compete with other professional development needs that would prepare you for possible battalion command.

To help in the designation process, make sure your college transcripts for both undergraduate and graduate degrees are in your file at Infantry Branch.

The actual designation process will take place during October and November 1991, and the results should be published in December. The needs of the Army, civilian education, military schooling, assignment experience, manner of performance, and individual preferences will all be considered during the process.

BRANCH DETAIL PROGRAM

Year Group 1990 branch detail lieutenants will spend only two years in the Infantry. The two-year period begins on the day they report for the Infantry Officer Basic Course (IOBC). At the completion of the two-year detail, they should be reassigned locally to their basic branches.

The only exceptions to the two-year branch detail are Military Intelligence and Adjutant General Corps officers. They will continue to spend four years in their Infantry details.

UNIT COIN COLLECTION

Infantry Branch is starting a collection of battalion, regimental, and division

coins. If you would like to donate one, we would greatly appreciate it.

If there is a particular story behind the coin, please include it for historical purposes. Unfortunately, coins cannot be traded for good assignments.

ARPERCEN TELEPHONE NUMBERS

The Army Reserve Personnel Center (ARPERCEN) at St. Louis has issued new telephone numbers for reserve component officers to use in calling their career management branches.

The toll-free numbers are: (800) 552-3229 for lieutenants; (800) 325-4882 for captains; and (800) 245-8465 for field-grade officers.

The commercial numbers are: (314)

538-3813 for lieutenants; (314) 538-3814 for captains; and (314) 538-3815 for field-grade officers.

The DSN numbers are: 892-3813 for lieutenants; 892-3814 for captains; and 892-3815 for field-grade officers.

BLACK SHOULDER MARKS

Black shoulder marks for officers' uniforms will be available in military clothing sales stores effective 1 October 1991 and will be authorized for wear as optional items.

After a one-year phase-in period, these marks will become mandatory on 1 October 1992. Until that date, officers may continue wearing the green shoulder marks.

INFANTRY BRANCH POINTS OF CONTACT

ASSIGNMENT AREA	NAME	TELEPHONE (DSN)*
Branch Chief	LTC Young	221-0445
Branch XO	MAJ Roberts	221-5510
Lieutenant Colonels Team	MAJ Dickman MAJ McCarthy Mrs. Hairston Ms. K. Harley	221-5510
Majors Team	MAJ Schook MAJ Koehler Mrs. P. Harley	221-5511
Captains Team	CPT McNulty CPT Armstrong CPT Smarr Ms. Emerson	221-5520
IOAC/Lieutenants Team	MAJ Morehouse CPT Pricone Mrs. Parham Mrs. Hughes Ms. Babylon	221-5514/ 221-0207
Colonels Assignment Officer	MAJ Hawrylak	221-7866

Mailing address: Commander, PERSCOM
ATTN: TAPC-OPE-I
200 Stovall Street
Alexandria, VA 22332-0414

*For commercial calls, use area code 703 and prefix 325 instead of 221.

BOOK REVIEWS



We have received a number of interesting items during the past few weeks that have as their central theme the war in the Middle East:

- **THE DESERT SHIELD FACT BOOK: FACTS ABOUT THE CRISIS.** By Fred Chadwick. GDW Games (P.O. Box 1646, Bloomington, IL 61702-1646), 1991. 64 Pages plus Map, \$10.00, Softbound. The author's purpose in preparing this book for publication was "to help the average man or woman better understand the military developments in the Middle East." It has a separate, full-color map and contains background information on the crisis, a glossary of terms, and information on the equipment, troops, and tactics of both the Allies and the Iraqis.

- **DESERT SHIELD COMMEMORATIVE MAP.** Military Living Publications (137 N. Washington Street, #201, Falls Church, VA 22046-4515), 1991. \$6.50. Selected photographs and country profiles surround the map on its outer edges. The photographs cover the first phase of operations and mark the transition from DESERT SHIELD to DESERT STORM. Disputed territorial areas are shown, as are national and international boundaries, railroads, airports, and seaports.

- **DESERT SHIELD MAP.** Duff Map Company (R.R. No. 2, Box 1048, Honesdale, PA 18431-9630), 1990. \$9.00, Laminated. This four-color map was compiled from Defense Mapping Agency maps in Washington. It details natural features such as springs and hills as well as such manmade structures as barracks, towers, and underground pipelines.

Infantrymen everywhere love to sprinkle their conversations and writings (particularly the latter) with quotations drawn from the works of certain well-known and not so well-known military and civilian personages, past and present. Accordingly, here are three fine books of quotations that should help them find just the quotation they need:

- **THE MILITARY QUOTATION BOOK.** Edited by James Charlton. St. Martin's Press, 1990. 152 Pages. \$12.95. In the past, the editor of this book has collected and edited a number of quotation books. This is his first to deal with the subject of war.

Here he offers more than 600 of what he considers "the best quotations about war, courage, combat, victory, and defeat." He admits his work is not all-inclusive, nor did he intend it to be. Although there is an index of names (some of which may surprise a reader), there are no other aids in finding a particular kind of quotation.

- **LEADERSHIP: QUOTATIONS FROM THE MILITARY TRADITION.** Edited by Robert A. Fitton. Westview Press, 1990. 382 Pages. \$19.95. This is a far different book than the one mentioned above although it, too, includes quotations from both military and civilian personages. It is different because the editor is a serving U.S. Army officer who concentrates his attention on the sole subject of military leadership, and because of its two-part arrangement—one devoted to the actual quotations, the other to a selection of readings on leadership. He does include a detailed index.

- **A DICTIONARY OF MILITARY QUOTATIONS.** Compiled by Trevor Royle. Simon and Schuster, 1990. 360 Pages. \$35.00. Trevor Royle is a well-known British writer and broadcaster on military history matters. Accordingly, he takes a somewhat different approach to presenting his collection of quotations; not only does he include quotations from the great military commanders of history, he also includes quotations (some quite long) from ordinary soldiers and from "the literary insights of the soldier-poets." He divides his book into five parts for ease of reference—captains and kings, battles and wars, armies and soldiers, war and peace, and last post. He draws most of the quotations from British and U.S. sources because he intended the book "for an English-speaking readership." He does include both author and subject indexes, a nice touch.

- **THE WORLD TURNED UPSIDE DOWN: THE AMERICAN VICTORY IN THE WAR OF INDEPENDENCE.** Edited by John Ferling. Contributions in Military Studies Number 79. Greenwood Press, 1990. 260 Pages. \$39.95. Here is a fine collection of essays, each written by an author who had previously published in his area. Each author, while concentrating on a single topic—George Washington, the Continental

soldier, Washington's lieutenants, for example—offers his thoughts on why the American colonists emerged victorious, or why Great Britain lost the war. Because this book is about the true beginnings of the U.S. Army as we know it today, it should be read and studied by all U.S. Infantrymen.

- **THE AMERICAN SOLDIER: U.S. ARMIES IN UNIFORM, 1775 TO THE PRESENT.** By Philip Katcher. Osprey, 1991. 224 Pages. The title of the book is somewhat misleading in that it does contain information about and drawings of U.S. Marines. It contains 160 full-color plates featuring more than 500 separate figures in uniform, plus weapons, equipment, and insignia details. In addition, there are more than 100 black-and-white photographs and illustrations. The author, who has an extensive background in and knowledge of military uniforms and equipment, narrates the development of the U.S. Army and U.S. Marine Corps from their colonial beginnings to the present. He pays special attention to the history, organization, weapons, equipment, and dress of U.S. ground troops in each era, and devotes separate chapters to such units as the Special Forces and the Rangers. This is a fine publication and one that all Infantrymen will enjoy.

- **WINGED SABERS: THE AIR CAVALRY IN VIETNAM.** By Lawrence J. Johnson III. Stackpole Books, 1990. 192 Pages. \$24.95. The author served with an air cavalry troop in Vietnam. (His father, who had been an Army aviator since 1954, commanded the second air cavalry squadron to arrive in Vietnam—the 7th Squadron, 17th Cavalry.) In this book, seemingly a labor of love, he gives an up-close look at the individual air cavalry units that fought in Vietnam—their histories, the insignia they adopted, the aircraft they flew, and the weapons they used. He also includes in his book excerpts from the diary of one troop commander (Captain Ray K. Clark), a photographic record of daily life in air cavalry units during the Vietnam war, a glossary of terms, and an annotated bibliography. Most of the photographs in the book were donated by Vietnam-era air cavalrymen.

- **VIETNAM: THE DECISIVE BAT-**

TLES. By John Pimlott. A Marshall Book. Macmillan, 1990. 200 Pages. \$39.95. This is another in the publishers' highly regarded "Great Battles" series. The author recreates 17 key encounters of the Vietnam war, from the French defeat at Dien Bien Phu in 1954 to the fall of Saigon in 1975. Each is illustrated with three-dimensional computer maps, as well as with photos and color paintings. The book also contains a description of the weapons that were used, on the ground and in the air; profiles of the military commanders and the civilian politicians; and such special features as drug abuse and rest and recreation facilities. This is another of those books that Infantrymen should read and study, for the lessons offered in its pages are as valid today as they were when they were learned the hard way 25 years ago.

• **IN THE FIELD: THE LANGUAGE OF THE VIETNAM WAR.** By Linda Reinberg. Facts on File, 1991. 256 Pages. \$22.95. This is a dictionary of almost 5,000 terms from the Vietnam War including acronyms, nicknames, code names, significant events and campaigns, technical terms, and slang. The compiler is a psychologist who specializes in post-traumatic stress disorders; she is one of the directors of the Vietnam Veterans Assistance Foundation.

Now here are some of our longer reviews:

DUEL OF EAGLES: THE MEXICAN AND U.S. FIGHT FOR THE ALAMO. By Jeff Long (William Morrow, 1990. 431 Pages. \$22.95). Reviewed by Ralph W. Widener, Jr., Dallas, Texas.

The book begins with the inauguration of Andrew Jackson as President of the United States in 1829, and reveals how his outspoken desire for ever more territory became the battle cry of those Americans who moved westward.

Of the siege of the Alamo itself, Long takes an in-depth look at the three main characters who were there—William Barrett Travis, James Bowie, and David Crockett. He points out their strengths and weaknesses and discusses their planning for the defense of what was, as Sam Houston noted, an indefensible fortress. In fact, Houston had ordered it destroyed, but no one obeyed him. Long does not think much of the three men's leadership abilities, but he goes to great lengths to tell how brave its defenders were after Travis drew the line on the day before the Alamo fell.

Probably the best part of the book deals with the eastward movement of the Texas colonists after the disasters at the Alamo and Goliad. Long maintains that by then those settlers who had come to Texas only

for the land were now gone and those who were left wanted to stay in Texas and make it their home. This, he says, made possible the independence of Texas, gained at San Jacinto on 21 April 1836.

Long seems to have an aversion to people who take risks, for whatever reason, or for land, as was the case for most of the Texans. One reviewer has written that this book "will not go down easily" (with Texans) but that "saints seldom settle a new country, and victorious armies are not the kind of folks you would want to invite to coffee."

But the book is worth buying and carefully reading, for its abundance of good, well-footnoted facts that no author heretofore has brought out regarding this period in our country's history.

RIDGWAY DUELS FOR KOREA. By Roy E. Appleman (Texas A&M University Press, 1990. 665 Pages. \$39.50.)

This is Roy Appleman's fourth, and apparently last, in his series of "unofficial" histories of the Korean War. He is also the author of a volume (the first one to appear in print) in the Army's official Korean War series.

In his previous four books, Appleman discussed—sometimes in excruciating tactical detail—the operations conducted by the U.S. 8th Army, the U.S. X Corps, and certain of the Allied units from the commitment of UN ground forces to the Korean peninsula in early July 1950 to the end of December 1950. In this particular volume, he picks up the story of the ground fighting on 26 December 1950 when General Matthew B. Ridgway took command of the ground forces in Korea following the death of General Walton Walker. He stops his narrative with the start of the truce talks that began on 10 July 1951, leaving the rest of the story to the official historians.

In late December 1950, the overall condition of the ground forces in Korea was poor. During the preceding 30 days they had been driven from North Korea by combined Chinese Communist-North Korean armies. Their morale was at rock-bottom; most of the units and their leaders seemed to want to get out of Korea any way they could and as quickly as possible.

General Ridgway changed their thinking and by the time he turned over his command to General James Van Fleet in April 1951 to become commander-in-chief of the Far East Command, the UN forces had inflicted a series of stunning defeats on their opponents and had driven them back to the 38th Parallel.

Once again, Appleman subjects us to a mass of tactical detail supported by too few maps. With only occasional digressions to discuss Ridgway's leadership qualities, the fighting at the Twin Tunnels and at Chipyeong-ni, and certain other episodes, the reader gets the distinct impression he is reading a regimental or division G-3 journal, without the maps and overlays.

Despite this criticism, Roy Appleman has done more than anyone else to rescue the Korean War from the pages of our "forgotten history." Infantry leaders, officers and noncommissioned officers alike, can learn much from his books, and we encourage them to become familiar with his work.

SOLDIERS AND SCHOLARS: THE U.S. ARMY AND THE USES OF MILITARY HISTORY, 1865-1920. By Carol Reardon (University Press of Kansas, 1990. 270 Pages. \$34.95). Reviewed by Lieutenant Colonel Cole C. Kingseed, United States Army.

The use and abuse of military history is the central theme of the latest edition in the University Press of Kansas' Modern War Studies series. In this book, Carol Reardon examines the Old Army's use of a progressive coordinated military history program to kindle a vital spirit of professionalism in its officer corps and to elevate the study of war to an intellectual level consistent with other learned professions. Her book grew from a 1971 Department of the Army report that lamented the Army's apparent abandonment of its traditional reliance on military history.

The author admirably succeeds in presenting both the successes and failures of the Army's efforts to prove its mastery over a body of theoretical knowledge that was unique to its service to the nation. Military history buffs and all Infantrymen will be delighted with her efforts.

What makes the book so informative is the author's attempt to demonstrate the proper role of military history in the education of the officer corps. Reardon examines the discipline in officer education, as well as its place in American literature. Although competing intellectual institutions, such as the American Historical Association, mounted a serious challenge to the Army's monopoly on studying and writing military history during the early Progressive Era, the Army continued to dominate the military history discipline.

In the final analysis, the Army emerges fairly well from these pages. Although soldiers still raise the same questions about the relevancy of military history to the

military profession, today's officer corps is gradually returning, albeit belatedly, to the Old Army's recognition of military history as being a vital ingredient in its continued professionalization.

BATAAN: OUR LAST DITCH. By John W. Whitman (Hippocrene Books, 1990. 754 Pages. \$29.95). Reviewed by Chris Timmers, Charlotte, North Carolina.

In this book, the author, a serving U.S. Army officer, recounts the events surrounding the fall of the Philippine Islands to the Japanese in the early days of World War II. He concentrates most of his attention on the fighting on the Bataan peninsula.

The Japanese had expected an early victory, particularly after their success at Pearl Harbor, and besides, the loosely knit opposing force in the islands consisted of a few well-trained Philippine Army units, a small U.S. garrison, and scattered air and naval forces. But from the initial attack on Clark Field to the capitulation of the Bataan garrison on 9 April 1942, the Japanese campaign to subdue the Philippines took four months. (Another month passed before the Japanese could claim a complete victory in the Philippines.)

John Whitman's book details the agony, the glory, and, occasionally, some of the humor associated with the defense of the Bataan peninsula by a combined U.S.-Philippine force. He has conducted exhaustive research and has interviewed some of the Bataan survivors to obtain their personal recollections. His book is, first, a testament to the brave men who defended the critical peninsula; second, because of his excruciatingly detailed account, it is a book written by a historian largely for other historians.

Readers may find the excerpts from personal remembrances and letters somewhat tiring, but they should not despair. To his credit, the author aimed at providing the first comprehensive study of the fall of Bataan and in this he succeeded admirably.

NATO AFTER FORTY YEARS. Edited by Lawrence S. Kaplan, S. Victor Pappas, Mark R. Rubin, and Ruth V. Young (Scholarly Resources, 1990. 277 Pages. \$40.00). Reviewed by Lieutenant Colonel Donald C. Snedeker, United States Cavalry.

This book contains a collection of papers presented at an international conference sponsored by the Lyman L. Lemnitzer Center for NATO Studies at Kent State University in April 1989. The conference was held to commemorate NATO's 40th anni-

versary. The book itself includes the works of 18 U.S. and European authors, each an academic specialist in the field of NATO studies.

NATO at 40 was, it seems, very much like NATO at 30 and NATO at 20. On each anniversary grave concerns were expressed that NATO may have outlived its usefulness, that in order for it to survive, major adjustments would have to be made in the very fundamental definitions of its reason for being. At the same time, others were saying that NATO had proved its viability and flexibility and that there was no substitute for the security offered by the 16 sovereign and democratic nations banded together in collective might.

The debate over NATO's past and possible future raged into 1990. But it was soon upstaged by even more momentous events—the fall of the Berlin Wall, the invasion of Kuwait, German unification, and the slow crumbling of the Soviet empire and inevitable backlash. The problem with books like this, therefore, is that they are quickly overcome by events. What was "obvious" in April 1989 is no longer obvious just two years later. Thus, works like this gain value based almost exclusively on how well they describe the state of affairs within the snapshot of time when they were written.

This book achieves this limited purpose reasonably well. But a reader who is seeking a foolproof recipe for the future will not find it here. In that regard, there is little to distinguish this book from the dozens (perhaps hundreds) of similar volumes published in honor of NATO's 40th birthday.

GENTLEMEN IN KHAKI: THE BRITISH ARMY, 1890-1990. By John Strawson (Trafalgar Square/David and Charles, 1990. 292 Pages. \$39.95). Reviewed by Major Harold E. Raugh, Jr., United States Army.

During the last century the British Army has participated in more wars, confrontations, and "emergencies" than any other army, suffering abysmal defeats as well as gaining spectacular successes. It was, and it remains, a small, cohesive, professional force of "gentlemen in khaki."

This book, a most interesting one, begins appropriately enough with a chapter that describes the army's origins and its activities, campaigns, and reforms up to 1890. The evolution of that army during the past century is then chronicled in a most pleasing manner.

The author, a retired British Army senior officer and a well-known military historian, emphasizes the role played by the individual

soldier and weaves into his narrative vignettes from his own extensive military career. The result is a compact, easy-to-read history of the British Army during the past century.

The book also contains nine maps and sixty illustrations, all of which nicely supplement the well-written text. All in all, it is an interesting book, written by a caring and conscientious soldier-historian.

THE PATTERN OF WAR THROUGH THE EIGHTEENTH CENTURY. By Larry H. Addington (Indiana University Press, 1990. 161 Pages. \$10.95, Softbound).

THE ANATOMY OF VICTORY: BATTLE TACTICS, 1689-1763. By Brent Nosworthy (Hippocrene Books, 1990. 395 Pages. \$25.00). Both books reviewed by Colonel John C. Spence III, United States Army Reserve.

These two books are reviewed jointly because, in a scholarly sense, they complement each other. Larry Addington's book should be read first, since it presents a good survey of warfare from ancient times to the end of the 18th century. Included in his survey are significant developments in tactics and weaponry. The value of this book is for use in an introductory course on the history of war at a service academy or civilian university.

While Addington's approach is macroscopic, Brent Nosworthy's is microscopic in its analysis of warfare during a relatively brief but important period of history. His book, therefore, represents a relatively exhaustive and detailed account of the development of weapons and tactics among the major European powers during the rise of the modern nation-state. Of particular interest is the discussion of Prussian battlefield tactics during the reign of Frederick the Great. One of the most important values of this book is the appendix that contains diagrams of various battlefield formations and the serialization of troop movements.

A careful reading of these books will provide the lay student with an excellent grasp of the concept of warfare in the 18th century, a prominent period in military history.

THE FIGHT FOR THE MALVINAS: THE ARGENTINE FORCES IN THE FALKLANDS WAR. By Martin Middlebrook (Viking, 1989. 321 Pages. \$24.95).

THE HISTORY OF THE SOUTH ATLANTIC CONFLICT: THE WAR FOR

THE MALVINAS. By Ruben O. Moro (Praeger, 1989. 360 Pages. \$49.95). Both books reviewed by Leroy Thompson, Manchester, Missouri.

This pair of books offers those interested in the Falklands War a chance to view the conflict from the Argentine point of view. Middlebrook, a British military historian who has previously written on the war from the British point of view, traveled to Argentina and interviewed many Argentine veterans, including high-ranking officers as well as conscripts. Moro, on the other hand, is an Argentine historian who states in his preface that he hopes "to shed some light on circumstances that the United Kingdom has endeavored to conceal." Written originally in Spanish, Moro's book has been translated into English to allow the Argentine point of view to reach a much wider audience.

For objectivity, Middlebrook's book is preferable because he attempts to correct certain factual misconceptions about the war that have been perpetuated by both sides. Moro's book is more a defense, although it is of particular interest for its presentation of the Argentine view of the diplomatic maneuvering that followed the Argentine invasion of 2 April 1982. Unfortunately, in his attempt to justify the Argentine action, criticize the United States for backing Great Britain, and accuse the British of lying about their casualties, Moro obscures the valid accounts of the true heroism many of the Argentine troops showed during the conflict.

For the serious student of the Falklands conflict, both books are recommended reading. For the general reader who has not read widely in the field, Middlebrook's book is definitely the more readable, the more accurate military history, and the more affordable.

RECENT AND RECOMMENDED

THE FALL OF EBEN EMAEL. By James E. Mrazek. First published in the United States in 1970. Presidio Press, 1991. 192 Pages. \$19.95.

FIGHTING FOR PEACE: SEVEN CRITICAL YEARS IN THE PENTAGON. By Caspar Weinberger. First published in hardcover in 1990. Warner Books, 1991. 477 Pages. Softbound.

THE UNITED STATES INFANTRY: AN ILLUSTRATED HISTORY, 1775-1918. By Gregory J.W. Urwin. Illustrated by Darby Erd. Originally published in hardcover in 1988. Sterling, 1991. 176 Pages. \$14.95, Softbound.

UNDERSTANDING WEAPONS AND ARMS CONTROL: A GUIDE TO THE ISSUES. By Teena K. Mayers. Fourth Edition, Revised. Brassey's (U.S.), 1991. 146 Pages. \$15.95.

DUST OF THE SAINTS: A JOURNEY THROUGH WAR-TORN AFGHANISTAN. By Radek Sikorski. Paragon House, 1990. 273 Pages. \$19.95.

FORT SUPPLY, INDIAN TERRITORY: FRONTIER OUTPOST ON THE PLAINS. By Robert C. Carriker. Originally published in 1970. University of Oklahoma Press, 1990. 272 Pages. \$11.95, Softbound.

FOUR MEN WENT TO WAR. By Bruce Lewis. St. Martin's Press, 1989. 209 Pages. \$16.95.

THE PAINFUL FIELD: THE PSYCHIATRIC DIMENSION OF MODERN WAR. By Richard A. Gabriel. Contributions in Military Studies Number 75. Greenwood Press, 1988. 200 Pages. \$39.95.

SHOOTING WAR: PHOTOGRAPHY AND THE AMERICAN EXPERIENCE OF COMBAT. By Susan D. Moeller. Basic Books, 1989. 474 Pages. \$25.95.

MAKING SPACE DEFENSE WORK: MUST THE SUPERPOWERS COOPERATE? By A. Fenner Milton, et.al. Pergamon-Brassey's, 1988. 209 Pages. \$21.95.

GERMANY: THE WEHRMACHT STRIKES, 1920-1942. By Ronald L. Tarnstrom. Trogen Books (Route 1, Box 2, Lindsborg, KS 67456), 1989. 141 Pages. \$16.95.

THE NEVER-ENDING WAR: TERRORISM IN THE 80s. By Christopher Dobson and Ronald Payne. Originally published in 1987; this edition updated through mid-1988. Facts on File, 1989. 384 Pages. \$12.95, Softbound.

SECURITY PERSPECTIVES OF THE WEST GERMAN LEFT: THE SPD AND THE GREENS IN OPPOSITION. By William E. Griffith, et.al. Pergamon-Brassey's, 1989. 132 Pages. \$9.95, Softbound.

COLD DAWN: THE STORY OF SALT. By John Newhouse. Pergamon-Brassey's, 1989. 303 Pages. \$26.00.

DEFENSE TECHNOLOGY. Edited by Asa A. Clark IV and John F. Lilley. Praeger, 1989. 304 Pages. \$49.95.

THE LIBERATION OF GUAM, 21 JULY-10 AUGUST 1944. By Harry Gailey. Presidio, 1988. 231 Pages. \$16.95.

MILITARY PLANNING FOR THE DEFENSE OF THE UNITED KINGDOM, 1814-1870. By Michael S. Partridge. Contributions in Military Studies Number 91. Greenwood Press, 1989. 248 Pages. \$49.95.

SOLDIER'S STUDY GUIDE: HOW TO PREPARE FOR PROMOTION BOARDS AND ADVANCEMENT. By CSM Walter J. Jackson, U.S. Army, Retired. Stackpole, 1990. 128 Pages. \$9.95.

PERESTROIKA ANNUAL: VOLUME 2. Edited by Abel G. Aganbegyan. Brassey's (U.S.), 1990. 312 Pages. \$23.95.

AIR WARS AND AIRCRAFT: A DETAILED RECORD OF AIR COMBAT, 1945 TO THE PRESENT. By Victor Flintham. Facts on File, 1990. 424 Pages. \$40.00.

YAMAMOTO: THE MAN WHO PLANNED PEARL HARBOR. By Edwin P. Hoyt. McGraw-Hill, 1990. 281 Pages. \$19.95.

QADDAFI, TERRORISM, AND THE ORIGINS OF THE U.S. ATTACK ON LIBYA. By Brian L. Davis. Praeger, 1990. 202 Pages. \$42.95.

PAGE AFTER PAGE: MEMOIRS OF A WAR-TORN PHOTOGRAPHER. By Tim Page. Atheneum, 1990. 238 Pages. \$19.95.

AN UNCERTAIN HOUR: THE FRENCH, THE GERMANS, THE JEWS, THE KLAUS BARBIE TRIAL, AND THE CITY OF LYON. By Ted Morgan. Morrow, 1990. 416 Pages. \$21.95, Softbound.

WE SHALL RETURN! MACARTHUR'S COMMANDERS AND THE DEFEAT OF JAPAN. Edited by William M. Leary. University of Kentucky Press, 1988. 305 Pages. \$25.00.

UNITED STATES FOREIGN POLICY IN THE 1990's. By Dr. Harold R. Moroz. Carlton Press, \$12.95, Hardcover.

IN THE MEN'S HOUSE: AN INSIDE ACCOUNT OF LIFE IN THE ARMY BY ONE OF WEST POINT'S FIRST FEMALE GRADUATES. By Carol Barkalow, with Andrea Rabb. Poseidon Press, 1990. 283 Pages. \$19.95.

ALONG TEXAS OLD FORTS TRAIL. By Rupert Richardson. First published in 1972. University of North Texas Press, 1990. 114 Pages. \$9.95, Softbound.

CURRENT MILITARY AND POLITICAL LITERATURE, VOLUME 6, NUMBER 4 (1988 Sources). By Simon King and J.I.H. Owen. Oxford, England: The Military Press, 1990. 178 Pages. Softbound.

THE AMERICAN SOUTH: A HISTORY. By William J. Cooper, Jr., and Thomas E. Terrill. Knopf, 1991. 800 Pages. \$50.00.

TALKING WITH VICTOR CHARLIE: AN INTERROGATOR'S STORY. By Sedgwick D. Tourison, Jr. Ballantine Books, 1991. 291 Pages. \$4.95, Softbound.

THE GI'S WAR: THE STORY OF AMERICAN SOLDIERS IN EUROPE IN WORLD WAR II. By Edwin P. Hoyt. McGraw-Hill, 1988. 620 Pages. \$24.95.

THE AIRMEN: THE STORY OF AMERICAN FLIERS IN WORLD WAR II. By Edwin P. Hoyt. McGraw-Hill, 1991. 418 Pages. \$22.50.

THE ILLUSTRATED CONFEDERATE READER. Selected and edited by Rod Gragg. Originally published in hardcover in 1989. HarperCollins, 1991. 291 Pages. \$14.95.

CONFLICT TERMINATION IN EUROPE: GAMES AGAINST WAR. By Stephen J. Cimbala. Praeger, 1990. 296 Pages. \$45.00.

THE PENGUIN BOOK OF FIRST WORLD WAR PROSE. Edited by Jon Glover and Jon Silkin. Viking, 1990. 620 Pages. \$29.95.

PRISONERS, DIPLOMATS, AND THE GREAT WAR: A STUDY IN THE DIPLOMACY OF CAPTIVITY. By Richard B. Speed III. Contributions in Military Studies Number 97. Greenwood, 1990. 256 Pages. \$45.00.

OF ARMS AND MEN: A HISTORY OF WAR, WEAPONS, AND AGGRESSION. By Robert L. O'Connell. Oxford University Press, 1989. 367 Pages. \$24.95.

GUADALCANAL: THE DEFINITIVE ACCOUNT OF THE LANDMARK BATTLE. By Richard B. Frank. Random House, 1990. \$34.95.

BATTLE EXHAUSTION: SOLDIERS AND PSYCHIATRISTS IN THE CANADIAN ARMY, 1939-1945. By Terry Copp and Bill McAndrew. Montreal: McGill-Queen's University Press, 1990. 249 Pages. \$29.95.

INTERNAL SECURITY AND CO-IN, NUMBER 2. Editorial Supplement to the November 1990 issue of INTERNATIONAL DEFENSE REVIEW. Jane's Information Group, 1990. 78 Pages. Softbound.

From the Editor

PROJECT SHARE 90

In our September-October 1990 issue, we announced the beginning of PROJECT SHARE 90, an attempt on our part to emulate our successful Vietnam-era PROJECT SHARE, which resulted in four publications—INFANTRY IN VIETNAM, A DISTANT CHALLENGE, and COMBAT NOTES FROM VIETNAM I and II.

What we said we wanted and what we still want are lessons learned from Operations URGENT FURY (Grenada) and JUST CAUSE (Panama). Thus far we have received only one piece, and it appears in this issue.

We now intend to expand PROJECT SHARE 90 to include Operation DESERT SHIELD/DESERT STORM/DESERT SABER. We encourage all those who participated to think about the lessons they learned during any part of the operation, write them down, and send them to us. There are dozens of subjects out there—desert survival, establishing base camps, administration, maintenance, logistical matters, desert training, air-ground cooperation, tank-infantry-artillery cooperation, engineer operations, and keeping up with the three Ms—mail, money, and meals. We would like the writers to focus on lessons learned at the brigade level and below. We particularly encourage squad and platoon leaders to tell us what they learned.

We fear that many of the good, solid lessons learned from all of the above operations are getting away from us and will soon be forgotten. Please keep in mind that when you write for us you are also writing for generations of Infantrymen still to come. They are the ones who will benefit from your experiences. Let's not forget them.

SUBSCRIPTION INFORMATION

INFANTRY is available to subscribers at \$12.00 for one year and \$23.00 for two years. Foreign (non-APO) subscribers must add \$4.00 per subscription per year to cover mailing (surface mail) and handling charges. Foreign air mail rates will be furnished on request. Single copies are \$2.50 each if sent to a U.S. address.

Payment must be made in U.S. currency, by international money order, or by a check or draft drawn on a U.S. bank. For best service, payment should accompany each order, because we cannot start a subscription until we have received full payment for it. Checks, money orders, or drafts should be made payable to INFANTRY.

One-year subscriptions are not refundable. Two-year subscriptions are refundable, but service and handling charges will be deducted.



DEPARTMENT OF THE ARMY
INFANTRY (USPS 370630)
U.S. Army Infantry School
ATTN: ATSH-TDI
Fort Benning, Georgia 31905-5593

UNIVERSITY OF FLORIDA



3 1262 09682 3140

SECOND-CLASS POSTAGE PAID
AT COLUMBUS, GA, AND AT
ADDITIONAL MAILING OFFICE

OFFICIAL BUSINESS

